THE 500 FASTEST-GROWING PRIVATE COMPANIES IN THE U.S.

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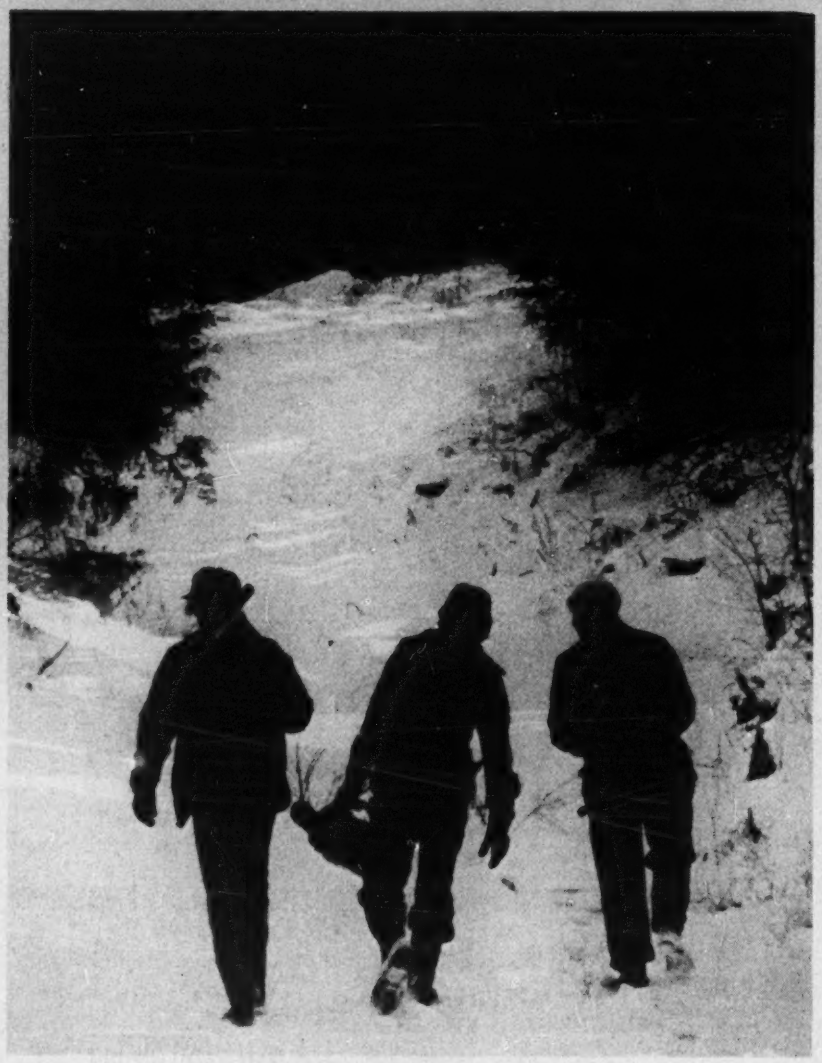

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THE INC. 500

THE 500 FASTEST-GROWING PRIVATE COMPANIES IN THE U.S.

In an ailing economy, smaller businesses have become the pacesetters of the 1980s. Led by 100 companies that have chalked up sales gains of more than 1,100%, the INC. 500 emerges as an elite club in which 500% growth in the last five years is more the rule than the exception.

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Illustration by Anne Bachler

THE INC. 500

Each company on the Private 500 has more than tripled its sales in the last five years. Among the top 100 companies, the five-year growth rates exceed 1,100%.

Business failures, layoffs, battered P&Ls, and loan defaults: While the headlines continue to blurt bad news, American business winds up 1982 sputtering about Reaganomics and straining to justify optimism about the year ahead. For many, innovation, determination, and sheer momentum have become the keys to success in an economy that has left no industry unscathed. Nowhere is this more true than among the 500 smaller enterprises that make up INC.'s list of fastest-growing privately held companies. As Jake Morse, president and founder of Marliss Industries Inc. (#18), a Jonesboro, Ark., farm-equipment maker, quips, "We've chosen not to participate in the recession."

While many companies have not had such a choice, every company on the INC. Private 500, like Marliss, rode into 1982 on the crest of sales gains that represent three times the momentum of many counterparts and most larger corporations. For example, while total sales posted by the nation's 500 largest corporations rose 70% from 1977 to 1981, sales for the INC. 500 skyrocketed 571%. No company qualified for the list that had not at least tripled its sales in the past five years.

From California's Altos Computer Systems at the top of the list to New Hampshire's Termiflex, the 500 companies are ranked according to their percentage increase in sales from 1977 to 1981. Five years ago, the 500 companies averaged $1.3 million in sales, with about 60% of them generating less than $1 million and only 24 topping the $5 million mark. Today, the average volume for the INC. 500 is $8.6 million, with 225 companies topping $5 million.

The ranking represents a diverse range of industries, from air courier services to oil and gas producers. It includes 133 manufacturers, 83 wholesalers, 42 retailers, and 29 contractors. Among the manufacturers are 18 makers of computer equipment, 8 producers of medical devices, and 6 companies in the telecommunications field. Led by 32 computer software companies, the service businesses include 10 personnel specialists, 6 plant security companies, and 5 trucking lines.

The 500 companies are headquartered in 44 states, the District of Columbia, and Puerto Rico. Not surprisingly, however, California is the front-runner, with 84 companies—more than twice as many as runners-up Texas (39), New York (34), and Massachusetts (32).

Diverse as they are in industry and location, the INC. 500 share at least three qualities—they are young, productive, and profitable. On average, the 500 companies have been in business only 10 years. Most are products of the 1970s—346 were founded in the past decade. Using sales per employee as a yardstick, the emerging companies produce greater volume per worker than most giant counterparts. Led by Colorado Boxed Beef (#383) and International Games (#11), with sales per employee of $2.7 million and $1.5 million, respectively, the INC. 500 includes 173 companies that rang up more than $100,000 per employee in 1981.

More important than employee sales statistics, however, is the growth in number of employees among the INC. 500. In the last five years, the overall size of the group's work force has soared by 315%—a significant figure compared with the meager 2% increase registered by the *Fortune* 500. As a group, the INC. 500 companies have created 53,400 jobs since 1977.

While the majority of the INC. 500 companies expanded internally during the 1977–81 period, acquisitions played a role in the growth of 110 companies. Most of the acquisition activity has been concentrated among the service companies, whose targets have been businesses similar to their own. Among the most active acquirers are security service concerns (Alarmingly Safe & Sound, #461; California Plant Protection, #458; Titan, #360). Clearly the most active among the manufacturers on the list is Brenlin Group (#441), an Akron-based combine of 12 companies that now produces everything from brake shoes to beer kegs.

As their statements testify, the INC. 500 companies are also as profitable as they are productive. Although 79 of the companies closed 1977 in the red, only 13 were wrestling with deficits at the end of 1981. More important, over 300 companies report net income exceeding 6% of sales. Of those, 54 chalked up earnings of 16% or more in 1981. Overall, when 1977 and 1981 profits are compared, the 500 growth companies appear to be holding their own. While earnings for 259 companies remained about the same in the five-year period, 160 boosted profit levels, and only 81 saw their bottom lines shrink.

Although the statistics reflect the explosive growth and diverse nature of the INC. 500, the true significance of these pacesetting enterprises is the human element. Behind each entity is an entrepreneur whose ingenuity and perseverance has led to outstanding growth. Just how much of a role entrepreneurs have played in these companies is reflected in the extent of the chief executive officers' ownership. In three out of four companies, the CEO holds a majority interest—more than 50% of the equity. Furthermore, in at least one out of four cases, the CEO is the sole owner. Among companies in which the top officer holds less than a controlling interest, most of the CEOs (7 out of 10) share at least 25% of the action.

As with any ranking of elite companies, the INC. 500 raises curiosity about companies that finished as runners-up and those that were disqualified. At press time, Klein Associates Inc., a Salem, N.H., manufacturer of underwater detection equipment, with 1981 sales of $5.1 million and a five-year gain of 234%, emerged as #501. Other runners-up include more than 100 companies that have at least doubled or tripled their sales in the past five years.

Among companies disqualified, the most noteworthy are those that were eliminated because their 1977 sales were less than $100,000. These companies testify to the meteoric growth of smaller privately held concerns. Among them are Data-Chek, Microamerica Distributing, and TeleVideo Systems, all of which generated sales of less than $50,000 five years ago. By 1981, however, Data-Chek, a Portland, Oreg., check-verification service, had soared to $9.2 million; Microamerica, a Needham, Mass., distributor of microcomputers, had reached $16.9 million; and TeleVideo, a Sunnyvale, Calif., maker of computers, had surpassed $35 million.

Where will the INC. 500 go from here? As experience shows, several—already marking time until the market turns—will cross the threshold to public ownership. Several others will be drawn into the takeover game, emerging as willing or reluctant prizes. And, unfortunately, one or two will end up in the casualty column as further testimony to the turbulence and entrepreneurial risks of the early 1980s.

Brad Ketchum Jr.

Bradford W. Ketchum Jr., Senior Editor

The information published in this report is based on material supplied by the companies. In each case it has been verified in writing by a company officer, by supporting financial statements, and by telephone interviews between INC. *editors and company principals. The published information is the only material that* INC. *will make available.*

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THE INC. 500

America's fastest-growing private companies.

Company (by rank)	Sales Growth 1977-81: Percent increase	Compound annual rate	'81 sales ($000)	'77 sales ($000)	Profit range * '81	'77	No. of employees '81	'77	Acquisitions '77-'81	Date founded	Business description
1. Altos Computer Systems (San Jose, CA)	14,164%	246%	$21,396	$ 150	A	A	250	14	No	1977	Mfr. multi-user microcomputers
2. Terminals Unlimited (Falls Church, VA)	9,332	212	16,730	177	B	B	98	4	Yes	1976	Computer sales, services
3. A-America[1] (Seattle)	8,501	205	9,633	112	C	C	56	4	No	1974	Importer/wholesaler, furniture
4. Florida Food Industries (Winter Park, FL)	6,654	187	7,231	107	B	D	55	6	No	1977	Popeyes Famous Fried Chicken franchise
5. International Postal Mktg. (Montville, NJ)	6,408	184	7,212	111	B	D	68	8	No	1974	Mkt., distrib., mfr., collectibles
6. CompuShop (Richardson, TX)	5,433	173	8,374	151	C	C	76	8	Yes	1977	Retail computer stores
7. J.A. Cornwell (Pasco, WA)	5,203	170	18,522	349	B	D	9	5	No	1975	Project developers service
8. Paychex (Rochester, NY)	5,083	168	14,358	277	C	B	300	11	No	1970	Automated payroll service
9. Furniture Consultants[1] (New York)	5,063	168	11,100	215	C	C	41	2	No	1976	Office furniture dealer
10. Homestead Products (Ramona, CA)	5,003	167	10,700	210	C	A	150	8	No	1975	Mfr., ceiling fans
11. International Games (Joliet, IL)	4,952	167	32,391	641	B	B	22	8	No	1972	Mkt., card/board, related games
12. Management Improvement (Durham, NC)	4,707	163	15,670	326	D	D	125	12	Yes	1977	Technical finance/mgmt. service
13. Technology for Energy[1] (Knoxville, TN)	4,512	161	12,918	280	C	D	195	8	No	1975	Products, services, electric utilities
14. Texas Tumbleweed (Houston)	4,434	160	14,918	329	B	C	650	45	No	1977	14 steakhouses
15. Sharper Image (San Francisco)	4,259	157	27,985	642	B	B	110	8	No	1976	Mail-order catalogues
16. Commercial/Industrial Admin. (Santa Clara, CA)	4,079	154	14,000	335	A	C	48	2	No	1977	Third-party insurance admin.
17. Metier Mgmt. Systems (Houston)	4,079	154	22,803	546	B	B	350	5	No	1977	Develop/mkt., turnkey computer sys.
18. Marliss Industries (Jonesboro, AR)	3,937	152	5,127	127	B	D	125	5	No	1977	Mfr. farm equip.
19. Hill International (Willingboro, NJ)	3,759	149	7,100	184	B	D	131	5	Yes	1976	Mgmt. consultants, construction ind.
20. Ronald Hsu Construction (Capitol Heights, MD)	3,300	142	4,256	125	C	D	100	5	No	1976	General contractor
21. Delta Business Systems (Orlando)	3,085	138	5,988	188	C	B	120	12	No	1976	Sales/leasing/service, office equip.
22. TSR Hobbies[1] (Lake Geneva, WI)	3,061	137	17,251	546	A	B	187	12	No	1974	Publisher, games/books/magazines
23. Mini-Pak (New York)	2,839	133	3,389	115	B	C	30	4	No	1976	Software sys., communications ind.
24. Polaris Vac-Sweep (San Marcos, CA)	2,825	133	11,782	403	B	D	65	15	No	1957	Mfr.,mkt. swimming-pool cleaner
25. Kassouf Parking[1] (Cleveland)	2,750	131	4,842	170	C	C	60	12	No	1972	Operate parking facilities
26. R.W.P. Johnson Associates (Bridgewater, CT)	2,715	130	6,868	244	B	C	7	4	No	1970	Design/erect cooling towers; ductwork
27. Energy Supply (Wayne City, IL)	2,532	127	19,328	734	B	B	145	25	No	1977	Coal producers/brokers
28. Ghent Mfg. (Lebanon, OH)	2,382	123	9,094	366	B	C	85	6	No	1977	Mfr. visual communication aids
29. Sun Hill Industries[1] (Stamford, CT)	2,378	123	4,980	201	A	A	32	4	No	1974	Mfr. holiday goods, candy molds, clocks
30. Seaboard Electronics (New Rochelle, NY)	2,355	123	2,700	110	B	D	78	5	No	1976	Telemetry monitoring & central systems

1/ Ranked among the INC. Private 100 companies in 1981. */ Net income as % of sales: A. 16% or more; B. 6%-15%, C. 1%-5%, D. loss.

THE INC. 500

Compared with the INC. 100 fastest-growing public companies, the top 100 privately held businesses are smaller in size, faster in growth, and far more diverse.

Company (by rank)	Sales Growth 1977-81: Percent increase	Compound annual rate	'81 sales ($000)	'77 sales ($000)	Profit range* '81	'77	No. of employees '81	'77	Acquisitions '77-'81	Date founded	Business description
31. W-B Pump & Supply[1] (Pampa, TX)	2,290	121	27,190	1,138	C	C	51	8	No	1971	Oil-field supplier
32. Tele-Com Products (Pasadena, CA)	2,248	120	2,817	120	C	B	12	1	No	1977	Distrib. electronic telephone prod.
33. Southern-Gulf (Lafayette, LA)	2,223	120	39,717	1,710	C	C	185	23	No	1976	Marine transport. to offshore oil ind.
34. Advanced Technology[1] (McLean, VA)	2,216	119	31,827	1,374	B	B	672	51	No	1976	High-tech. professional services
35. Columbia Data Products[1] (Columbia, MD)	2,192	119	7,018	306	B	C	120	10	No	1976	Mfr., mkt., develop computer/software
36. Charles River Data Systems (Natick, MA)	2,187	119	5,645	247	B	B	47	7	No	1973	Mfr. computers, peripherals
37. Vermont Castings (Randolph, VT)	2,185	119	29,070	1,272	B	C	430	78	No	1975	Mfr./sale cast-iron stoves
38. Lawson Associates (Minneapolis)	2,082	116	2,529	116	C	C	101	5	No	1975	Software consultant
39. Aquidneck Data (Middletown, RI)	2,051	115	5,883	274	C	C	159	22	No	1976	Software design, develop., consult.
40. Microtech Mfg.[1] (St. Louis Park, MN)	2,033	115	12,800	600	D	B	310	15	Yes	1973	Precision metalworking
41. World Wide Chemicals (Indianapolis)	2,005	114	2,095	100	B	D	18	4	No	1977	Mfr. automotive products
42. Wolfberg/Alvarez/Taracido (Miami, FL)	1,927	112	3,264	161	B	B	146	10	No	1976	Architec., int. design., mgmt.
43. Can-Am Communications (Ontario, CA)	1,925	112	6,890	340	B	C	150	25	No	1972	Cable-TV construction
44. Inacomp (Troy, MI)	1,922	112	8,713	431	C	B	50	6	No	1976	Mktg., microcomputer syst., software
45. Parker Construction[1] (Charleston, SC)	1,903	112	3,522	176	C	B	100	10	No	1976	Industrial/commercial contractors
46. SAS Institute[1] (Cary, NC)	1,894	111	10,086	506	B	B	120	13	No	1976	R&D computer software
47. American Pump & Supply (Cushing, OK)	1,880	111	3,502	177	C	C	24	2	No	1977	Dealer, oil-field supplies, equip.
48. Comark (Elmhurst, IL)	1,872	111	2,253	114	B	A	18	1	No	1977	Distributor, computer supplies
49. Conference Management (Norwalk, CT)	1,830	110	7,102	368	B	C	30	4	No	1976	Mgr., trade shows/conferences
50. Rustman Bus (St. Louis)	1,813	109	7,677	401	B	B	30	3	No	1975	School bus contractor/distributor
51. Willis Cos.[1] (Houston)	1,749	107	13,917	753	B	C	111	8	No	1976	Personnel services
52. TeleCheck Texas (Houston)	1,740	107	3,477	189	B	D	79	14	Yes	1977	Check-verification services
53. Kirke-Van Orsdel[1] (Des Moines)	1,688	106	11,408	638	B	D	290	42	Yes	1974	Insurance broker/administrator
54. Vital Signs[1] (East Rutherford, NJ)	1,678	105	5,760	324	B	C	26	5	No	1972	Mfr., anesthesia equipment
55. Finals Racing Swimsuits (New York)	1,671	105	2,596	146	A	D	40	5	No	1976	Mail-order racing swimsuits
56. ACSIS[1] (New York)	1,666	105	3,090	175	B	C	100	15	No	1975	Computer consultants
57. Red Calliope & Assoc. (Culver City, CA)	1,661	105	4,749	270	B	C	26	12	No	1969	Mfr., infant nursery accessories
58. F.J. Sciame Construction[1] (New York)	1,629	104	11,427	661	C	C	45	10	No	1975	General contractor
59. Auto-Line Manufacturing (Copiague, NY)	1,614	104	6,000	350	B	B	250	12	No	1977	Mfr., ignition wire sets
60. Flight Int'l. Group (Atlanta)	1,600	103	12,750	751	B	A	150	14	Yes	1976	Aviation serv./defense contracts
61. PBM Office Products[1] (Cleveland)	1,596	103	2,867	169	B	A	52	12	No	1974	Distributor office products
62. Graham Brake & Diesel (Chatsworth, CA)	1,594	103	3,133	185	C	D	18	3	Yes	1977	Distrib. transit replacement parts
63. Agrigenetics (Denver)	1,574	102	85,364	5,100	C	C	730	30	Yes	1975	Agrigenetics research; mktg. seeds
64. Techexport[1] (Waltham, MA)	1,568	102	13,014	780	B	B	78	10	No	1971	Export computer peripherals
65. Applied Process Tech. (Santa Clara, CA)	1,503	100	3,647	228	C	B	38	8	Yes	1975	Mfr. equip., semiconductor ind.

1/ Ranked among the INC. Private 100 companies in 1981. */ Net income as % of sales: A. 16% or more; B. 6%-15%, C. 1%-5%, D. loss.

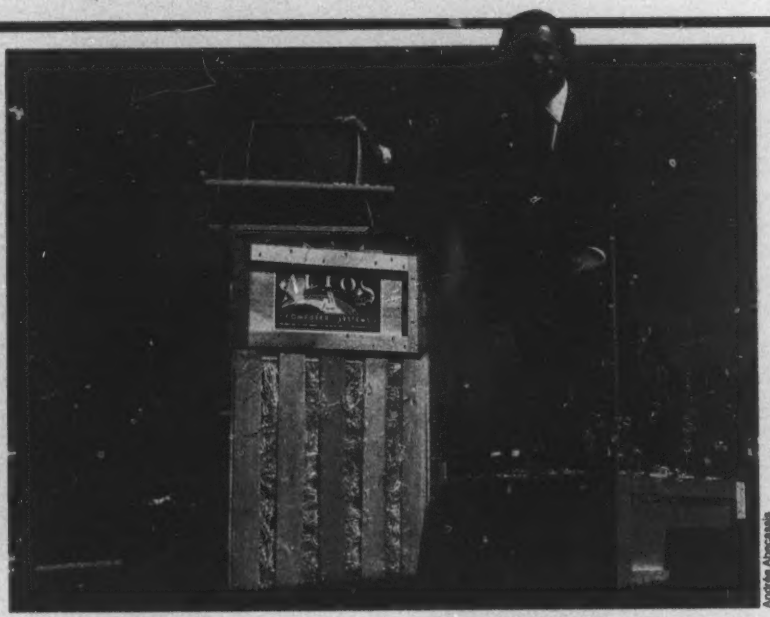
How extensive is the private ownership? In three out of four cases, the chief executive holds majority interest. Furthermore, in 30% of the companies, the CEO is sole owner of all equity in the business.

Company (by rank)	Sales Growth 1977-81: Percent increase	Compound annual rate	'81 sales ($000)	'77 sales ($000)	Profit range * '81	'77	No. of employees '81	'77	Acquisitions '77-'81	Date founded	Business description
66. Convex (Washington, DC)	1,488	100	2,241	141	B	B	33	11	No	1976	Mfr./sell data communication equip.
67. Industrial Training (Rockville, MD)	1,477	99	3,084	196	B	D	36	7	No	1977	Produce ind. training video program
68. Nat'l Business Communic. (Pompano Beach, FL)	1,473	99	3,502	223	B	D	50	2	Yes	1972	Bus. telephone/communication sys.
69. Bank Earnings Int'l. (Atlanta)	1,472	99	3,627	231	C	A	44	4	No	1976	Bank consulting
70. Yankee Group (Boston)	1,471	99	5,500	350	A	A	62	6	No	1970	High-technology market analysis
71. Ad-Tek Engineering Services[1] (Irvine, CA)	1,464	99	3,420	219	C	C	66	8	No	1974	Temporary technical personnel
72. McCormack & Dodge[1] (Needham, MA)	1,430	98	26,225	1,714	C	C	350	57	No	1969	Develop, mkt. financial software
73. Shallow Waterbeds (Lubbock, TX)	1,400	97	5,400	360	B	C	68	9	Yes	1976	Waterbed retailer
74. Neuro (W. Chicago, IL)	1,370	96	14,700	1,000	B	D	65	4	No	1976	Design, mfr. loading equip.
75. Katek (Middlesex, NJ)	1,355	95	1,518	104	B	C	126	16	No	1975	Repair cable-TV terminals
76. B.W. Levy Security Cnslt.[1] (Chicago)	1,355	95	1,600	110	B	A	110	20	No	1975	Public safety/security consulting
77. Memphis Glove (Memphis)	1,354	95	8,806	605	C	C	21	4	No	1974	Importers/distrib. industrial gloves
78. Delphi Glass (Lansing, MI)	1,336	95	2,154	150	B	A	50	20	No	1972	Wholesale/retail stained-glass supplies
79. Ashcraft Trucking (Shelbyville, IN)	1,328	94	4,988	349	C	C	85	15	No	1970	General commodities common carrier
80. Piedmont Mechanical (Spartanburg, SC)	1,327	94	11,118	779	B	C	245	48	No	1977	Mechanical contractors, HVAC
81. Data Electronics[1] (San Diego, CA)	1,309	94	11,834	840	B	C	419	25	No	1974	Mfr. magnetic tape-drive
82. Telecommunications Spec.[1] (Houston)	1,305	94	11,065	787	B	B	190	30	No	1974	Telecommunication equip. sales/service
83. Virginia Textiles (Richmond, VA)	1,255	92	2,229	164	C	C	40	3	Yes	1976	Imprinted sportswear
84. HTC (Concord, MA)	1,255	92	1,902	140	C	C	30	3	No	1974	Mfr. vapor-phase soldering system
85. Datamaxx USA (Tallahasee, FL)	1,237	91	6,075	454	B	B	35	7	No	1973	Sales/develop., computer peripherals
86. Computech (Wethersfield, CT)	1,222	91	1,603	121	B	A	30	3	No	1977	Data processing consulting/sys. dev.
87. Corvette America (Boalsburg, PA)	1,220	91	2,976	225	C	D	30	4	No	1977	Mfr./distrib., Corvette parts
88. Pillsbury Chemical & Oil (Detroit)	1,213	90	5,250	400	B	C	48	10	Yes	1924	Mfr. coolant/lubricants, for metalwork
89. Three Rivers Computer (Pittsburgh)	1,212	90	3,371	257	D	B	108	10	No	1976	Mfr. computer workstations
90. Univox-California (Los Angeles)	1,212	90	10,100	770	C	D	212	50	No	1970	Electronics, water-purification equip.
91. Dorman Bogdonoff (Andover, MA)	1,206	90	2,482	190	C	D	65	9	No	1975	Mfr. membrane, tactile keyboards
92. Harmony Foods (Santa Cruz, CA)	1,204	90	23,566	1,807	C	C	200	30	No	1969	Natural snacks, confectionary foods
93. J. Nageldinger & Son (Westbury, NY)	1,202	90	3,216	247	B	D	19	8	Yes	1880	Respiratory-therapy equip.
94. State Machine Products (Dry Ridge, KY)	1,191	90	3,726	289	B	B	115	18	No	1970	Mfr. food service/lighting equip.
95. American Passage Mrktg. (Seattle)	1,180	89	2,713	212	C	C	75	1	Yes	1976	College media, mktg./mail order
96. Early Winters—Omnipotent[1] (Seattle)	1,171	89	9,100	716	C	C	167	39	No	1973	Mfr./retailer, outdoor clothing, equip.
97. Apeca Industries (Deer Park, NY)	1,168	89	2,500	197	C	D	94	7	No	1974	Mfr. telecommunication equip. sys.
98. Computer Systems Research (Avon, CT)	1,146	88	1,430	115	B	C	24	1	No	1974	Computer systems software/training
99. Seko Air Freight (Rosemont, IL)	1,133	87	9,722	789	C	C	60	10	No	1976	Air-freight forwarding
100. Commercial Pipe Services (Morgan City, LA)	1,126	87	1,456	119	A	A	60	8	No	1977	Oil-field hydrostatic testing, maint.

THE INC. 500

PRIVATE LIVES

Microcomputers, welding equipment, wheelchairs, prefabricated churches, and five other businesses earned their companies a spot on this year's INC. 500.



Andrés Abocasis

Founder David Jackson has been breeding Altos to be like a Doberman, "mean and lean."

#1 ***Altos Computer Systems; manufacturer of multi-user microcomputers; San Jose, Calif.*** It is clear that there isn't much room in microcomputers for two companies named after fruit. Luckily, although the 200,000-square-foot San Jose, Calif., headquarters of Altos Computer Systems is located in an apricot orchard, founder David Jackson chose to style his company after his hometown of 15 years, Los Altos Hills. Still, it was close: The corporation's slick promotion theme features fruit-packing crates labeled with "Altos Brand" contents.

But there is more to comparing apples and apricots than mere namesakes. Apple Computer and Altos each happens to be INC.'s 1982 fastest-growing small business—Apple among public companies (see INC., May, page 59), and now Altos among the private. Each company was conceived in a California basement (or reasonable facsimile), and each was born in 1977. In that fecund year, Apple had only 10 employees, Altos but 14. And their initial growth was relatively unspectacular: In the first 12 months, each company posted less than $1 million in sales.

But here the limbs diverge. Ex–computer salesman Jackson, a round-faced, curly-haired Englishman who was then barely 40, went straight for the high end of the microcomputer market. Staking out a broad but well-defined niche—business processing and communications systems that didn't demand the full power of minis—Jackson assumed that the technology of micros would soon usurp territory firmly held by well-established minimakers. Jackson aimed to be there when it did. And he wagered his $100,000 personal nest egg that Altos could do it far more cheaply than prospective competition.

In 1979 Altos expanded from one-user to multi-user systems, and it has gone on to take as prodigious leaps in its sector as Apple has (even more so in the scorching personal computer market that Jackson eschewed) in the other. The Altos figures shout for themselves: from $8 million in sales in fiscal 1980 to $21 million in fiscal '81 and to an announced $51 million for fiscal '82, ended on June 30 (a figure not included in INC.'s listing criteria). That is a gain of 143% in a dismal year that slowed down many another high-tech high-flier.

Jackson grudgingly recognizes that the growth slope inevitably must start to flatten—but not necessarily by much. This September, Altos was shipping at the rate of $80 million a year. In three more years, say some forecasts, it will be a $500 million company.

Altos has just introduced a line of single-card, 16-bit machines that can be networked to as many as 800 individuals. Thus increasingly more powerful microcomputer systems have been placed firmly on the doorsteps of established minicomputer outfits. Indeed, says Jackson, "any OEM that DEC is selling is a target for us." This competitive turn is not going unchallenged. DEC, IBM, Wang, Data General, and even Apple—to name just a few—are trying to squeeze into a niche already occupied by Altos and a handful of small companies. So, predictably, will the Japanese.

Most of them won't last, Jackson feels. Many smaller entries "don't seem to be making it." For one thing, no longer does only $200,000 suffice to gear up for the 16-bit market; rather, $20 million is needed. And the bigger companies suffer from self-defeating stubbornness. Some, for example, manufacture their own peripherals, which gluts inventory in slow times; others insist on imposing their own operating systems, a conceit Jackson likens to each phonograph-record company devising its own rate of RPM. "I'm watching them make mistakes that it will take them a couple of years to recover from," he gloats.

Meanwhile, Jackson has been breeding Altos like a Doberman—to be "mean and lean." Its pretax margins are a slim 20%, but in 1981, its net income was a highly profitable 11.2% of sales. It manufactures only its board and acquires the rest from vendors. Its control methods can respond to threatened inventory excesses within two months. It utilizes

(continued top of page 43)

standard chips like Intel's and standard operating systems like CP/M and UNIX. Thus 300 "happy but serious" employees (largely because of liberal employee stock ownership, Altos enjoys low turnover) were able to produce 1982 revenue at the exceptionally high ratio of $170,000 each. "That's the key to this business. If Japan can do it," challenges Jackson, "good luck to them. No competitor can underprice us and survive."

Another unassailable Altos strength, says Jackson, is marketing and promotion. Altos extends up to $1 million in credit to dealers—a lure that would-be pursuers will find hard to match. All told, it spends 12% of sales on dealer support and end-user advertising.

So far Altos's growth has been largely self-financed, but additional capital is needed just to expand accounts receivables, Jackson figures. To finance the next phase, the company was expected to go public in November, with about $38 million in new stock. Some of the money probably will be plowed into research and development—an area in which ratios have fallen behind, mainly because of rapid sales expansion. "If you're going to stay significant, you've got to be spending it," says Jackson, who intends to bring R&D expenditure up to 10% of sales from mid-'82 levels of 6½% to 7%. On the drawing board are some "sexy-looking," low-end products (one is a 16-bit model for about $5,000), and "mind-boggling" developments in networking and communications. "We want the total sale," says the seemingly insatiable Jackson, "from desktop to mainframe."

Despite the apparent ease with which Altos was steered into eight-digit revenues, Jackson figures that one successful launch per lifetime is enough. The last time he started a business, in the late '60s, he had to sell it for lack of capital. "I learned then that if you want to meet the payroll you'd better have some money in the bank."

Now that the money is there (in 1981 Altos had $4 million in cash and a credit line for another $5 million), he intends to keep it there. "I'm really not an entrepreneur," Jackson explains. "It's too stomach-churning to realize that the business stops when you go home at night and doesn't start up again unless you return in the morning. The bigger this one gets, the better."—*R.A.M.*

#175 *Jewell Building Systems; manufacturer and fabricator of metal buildings and homes; Dallas, N.C.*

"The down economy has accrued to our benefit," says Everett Jewell, owner of Jewell Building Systems, a Dallas, N.C., manufacturer and fabricator of pre-engineered metal agricultural, industrial, and commercial buildings, houses, and churches. "In hard times, people are looking for alternatives."

Jewell has built his five-year-old business to more than $2 million in sales by continually looking for innovative alternatives himself. When he started, with $30 in his pocket and a part-time secretary, he advertised farm storage buildings. Rather than try to secure credit, he first made the sale, then had the product manufactured under his name and delivered. Today, although his company has grown to be a manufacturer with 30 full-time employees, he still does a strictly cash business, even though "our bankers tell us we can't do business that way."

Jeep Hunter/Black Star

Everett Jewell makes use of alternatives.

His expansion into housing came about as an attempt to provide alternatives. "I had spent 10 years in the mobile-home business," he says, "and I discovered that a person who bought a mobile home would rather have had a conventional home if he could have afforded it." Estimating that some 80% of prospective buyers nationwide had been priced out of conventional houses, Jewell developed a vinyl-coated, woodgrain house that could be sold for $28,000. "Anytime you have an 80% market and an effective product, you might as well hitch up the locomotive and go," he says. Besides national sales, he is negotiating a deal for 20,000 steel homes in Colombia, South America, part of an overseas market whose potential he believes is enormous.

The latest alternative to engage Jewell's attention is the church market, where costs range from $42 to $105 a square foot for sanctuaries constructed by church contractors. "We applied our system to come up with a series of churches where you can turn the key and walk in for $26 a square foot, including furniture, pews, baptistry, steeple, and cross," he says. "The future market is unreal."—*C.H.*

Ed Pierratt/Black Star

Irene Dugger opened a world to women.

#213 *Queen Oxygen Co.; supplier of welding equipment; Worthington, Ohio.*

The welding-supply business, Irene Dugger admits, is a man's world. "But I can go into a welding shop and talk to the foreman and the superintendent, and I can relate to them," she says.

Ten years ago Dugger was 40 years old, a publishing-company clerk with some door-to-door selling experience, and dreaming of owning her own business. Today she is the chief executive officer and majority stockholder of Queen Oxygen Co. in Worthington, Ohio, a company with sales last year of almost $3.5 million and a five-year growth rate of 618%.

The company's success, Dugger claims, has come largely from its female ownership and predominantly female staff. The president and all eight salespeople are women. "We've tried men," secretary-treasurer Delbert Thomas says, "but they just haven't cut the mustard."

Typically, most welding-supply distributors sell in a limited geographical area, delivering goggles, helmets, solder, torches, and accessories from a route truck. But the female ownership of Queen Oxygen has led to an expanded, nationwide customer base as well, selling supplies to large corporations eager to fulfill their affirmative-action requirements.

As Queen Oxygen has grown, so have Dugger's horizons. Some two-thirds of the company's sales growth has been in used compressed-gas cylinders, which Dugger purchases for reconditioning from dealers and government-surplus sources across the country and in Europe, Africa, and the Orient. "Irene had never been farther west than Indiana when we started," marvels Thomas. Now she's been all over the world—and made it a woman's world, too.—*C.H.*

Greg Sorber/Black Star

Allan Thieme's staff respects the product.

#212 *Amigo Sales Inc.; manufacturer of electric wheelchairs; Bridgeport, Mich.*

For plumbing contractor Allan R. Thieme, designing a better wheelchair was easy—the hard part was selling it.

In 1968, when his wife, Marie, contracted multiple sclerosis, Thieme saw the disadvantages of the conventional wheelchair firsthand. Not only was it too wide to maneuver, it also forced his wife to sit still, unable to move, looking far more crippled than she really was. The replacement he developed, a motorized scooterlike device with a swivel seat and handlebars like a bicycle's, enabled Marie to exercise her legs as the doctor had ordered.

But most medical-equipment distributors had little interest in a wheelchair produced by a plumbing contractor with neither capital nor a reputation behind him. Thieme talked to dozens of distributors, but in five years Amigo Sales Inc. managed to sell only a few hundred wheelchairs, 90% through direct contact with handicapped people.

"I was broke, and I was going to drop it," Thieme remembers—until the very effectiveness of the product suggested a novel marketing approach. Handicapped people who had been limited to conventional wheelchairs found the machine gave them the mobility to lead a full and nearly normal life. Why not let us sell the chair, several users suggested—and so was born the Amigo direct-sales staff, 80% of whom are either handicapped themselves or have relatives who are handicapped.

Sales for the Bridgeport, Mich., company began to rise, topping $9 million in 1981. The market remains huge. And no one can tap that market better than Amigo's sales staff. "Many of these people might have trouble finding regular employment; society still makes it hard for the handicapped to find a job," Thieme says. "But the people using the Amigo have a distinct advantage: They know what the Amigo can do. It has touched their lives directly."—*R.C.W.*

#118 *Cook Machine Co.; manufacturer of oil-field equipment; Duncan, Okla.*

When Henry and Dorothy Cook established Cook Machine Co. in 1956, its stock-in-trade was repairing and rebuilding automobile engines and selling car accessories. But over the years, as oil-well drilling became more intense in its own backyard, the Duncan, Okla., company began to use its machining expertise to move beyond autos. First it began fixing oil-field engines for oil companies producing in the area. Soon the Cooks started to see orders for custom-machined parts from Halliburton Services Division, a big oil-field service company based in Duncan. In 1976, sensing a market opportunity, Henry Cook decided to design and build oil-well pumping units from scratch.

For a while, the pumping units, selling for $1,500 to $15,000, were a modest sideline. But by 1978, as drilling activity heated up, demand for Cook Machine's CMC pumping units, which featured a patented design using heavy-duty chains instead of gears, was so strong that the Cooks invested more than $3 million in a new plant, inventory, and machines.

During 1980 and 1981, when sales shot to more than $5.6 million, Cook Machine built about 200 oil-well pumps a month, near its capacity, and employed more than 30 workers, including 12 skilled machinists. Besides Henry, now 59, who supervises production, and Dorothy, 56, the family business also includes their two sons—one working as a programmer and personnel manager, the other as a designer, buyer, and salesman—and their wives.

Lately, due to slackness in the world oil market, Cook Machine is no longer producing pumps at anywhere near its capacity—and many of its competitors have gone under. But, says Dorothy Cook, "it's our feeling that the activity will begin to come back, and when it does we're ready to manufacture as many pumps as anyone wants to buy."—*B.G.P.*

#24 *Polaris Vac-Sweep Corp.; manufacturer and marketer of swimming-pool cleaner; San Marcos, Calif.*

"Get the sale and *then* worry" was once the catchy philosophy of family-owned Polaris Vac-Sweep Corp. of San Marcos, Calif. The catch was that pursuing that credo swept the swimming-pool equipment company straight into bankruptcy court in 1976. But in a rapid turnaround worthy of Mark Spitz, not only did its president, James H. Edmiston, snatch Polaris from the jaws of liquidation, but he has also managed to increase sales an amazing thirtyfold in the five years since then.

The court allowed Edmiston to run the business as debtor in possession. "It was a hell of a learning experience," Edmiston says of the reorganization plan. "You get an understanding of everything that went wrong because you're forced to correct it all." To insulate the crippled company from angry creditors, Edmiston had to replace his father as chief executive officer. "No one was mad at *me*," the younger Edmiston explains.

Although the creditors did have some rights of control, he says, fortunately, "they weren't interested in running the business. They just wanted to get some money back." He sold off Polaris's inventory of some 4,200 pool items that the company then handled, and the debt that remained was traded for Polaris preferred stock. Bit by bit, over the succeeding six years, Edmiston bought the stock back from his creditors. When the repurchase was completed, a year ahead of plan, debts had been paid at about 58¢ on the dollar.

Edmiston rejected the only loan he was able to float—a second mortgage on his home. Thus Polaris's recovery was virtually self-financed. The catalog items were jettisoned and Polaris established a distribution network for the $500 pool-cleaning device on whose development the company had spent $1.5 million just before going under.

Edmiston followed this with aggressive trade and consumer promotion. Now the company is preeminent in its field, claims Edmiston, and enjoys a large, unsecured credit line. Indeed, living testament to the efficacy of bankruptcy law in keeping a business afloat, Polaris is awash in so much cash that it is currently seeking acquisitions.—*R.A.M.*

Ken Rogers

James Edmiston learned from past errors.

#6 *CompuShop; computer-store retailer; Richardson, Tex.*

As the market for personal computers has exploded, CompuShop, a computer retailing chain based in Richardson, Tex., has resisted the temptation of going after rapid growth through national franchising. Instead, the company, which has opened 18 stores in the past five years, believes that owning its retail outlets, though they demand precious capital, is a better way to go. The corporate staff takes care of advertising, accounting, and purchasing for all the outlets. "The only things the people at the stores have to do is sell computers and service customers," says Warren Winger, founder and chairman.

In early 1977, Winger, now 40, had been a manager for General Electric Information Services, marketing its computer time-sharing services, when he read an article in *The Wall Street Journal* on the incipient market for personal computers. In three months—just before the first Apple II models became available on the market—Winger had his first store in northern Dallas.

While Dallas, Houston, and Chicago are CompuShop's major markets today—a Denver store opened last August—Winger says that by mid-1985 the company will have 100 stores and be in new markets. The expansion, he claims, could be financed internally; the company projects its return on equity will increase 80% per year.

Specializing in Apple and IBM personal computers, CompuShop saw 1981 sales rise around 65%, to $8.4 million. But Winger anticipates increasingly stiff competition from national retailers like Sears, Roebuck & Co. and retail outlets owned by computer manufacturers. To meet these challenges, CompuShop is tightening quality standards throughout the chain and building a strong management organization. For instance, it recently hired a veteran Sears executive who had helped launch the giant retailer's new business systems centers. Explains Winger: "There isn't anyone who knows retailing and service better than Sears."—*B.G.P.*

Richard Mann

Paul Munsen is carefully attentive to the concerns of his special group of customers.

#245 *Munsen's Discovery Enterprises Ltd.; chartering and leasing tours; Hinsdale, Ill.*

When 23-year-old Paul M. Munsen set up a company in 1974, he planned to market low-cost, group motor coach tours to students and organizations. But within a year he discovered that there was more gold in another market: the golden-agers. Although the number of senior citizens was growing rapidly, there were no companies that had developed tour programs to meet the special needs of the group. "The Discovery Experience" was born, limited to men and women over 55 years of age.

Everything about Discovery tours has been calculated with the needs of the group in mind—even the travel brochure is printed in boldface type for easy reading. Trips are carefully planned, with travel time never more than 2½ hours without a stop. Long walks and steep steps at attractions are kept to a minimum. One price covers virtually everything—meals, hotels, attractions, and trips—so that seniors on a budget get no unwelcome surprises.

Such attention to detail has paid off. Over the last five years sales have climbed 563%, to nearly $8 million in 1981. Careful planning has been the hallmark of Munsen's growth. In 1980, Munsen purchased his own fleet of buses, buying the Illinois company from which he had originally leased his coaches, thus ensuring the quality of equipment. Later that year, he bought a bus company in Florida. Traditionally the business in the Midwest is slow in the winter and busy in summer and fall, while the business pattern in Florida is reversed. By having two companies, Discovery can get maximum use of its equipment and ensure a smooth, rather than seasonal, cash flow. In addition, the company has opened a commuter operation and a company offering one-day coach tours, both of which further increase utilization of equipment and generate income. Gross sales for the entire system are expected to hit the $11 million mark this year.—*R.C.W.*

Lynn Johnson/Black Star

Dan LeKander's wife is in the driver's seat.

#87 *Corvette America Inc.; manufacturer and distributor of Corvette automobile parts; Boalsburg, Pa.*

For Dan LeKander, it was a lucky accident. In 1974, LeKander wrecked his 1966 Corvette.

"I was going to rebuild the car," he remembers, "but I got discouraged and advertised the parts for sale." Some parts he sold, others he swapped. By the end of the year he had $6,000 in cash, $4,000 worth of parts, and an idea. The idea became, in 1977, Corvette America Inc., a Boalsburg, Pa.–based manufacturer and nationwide wholesaler and retail distributor of Corvette parts and accessories with almost $3 million in sales for fiscal 1981.

A huge market and a strict credit policy have been responsible for LeKander's success. There are more than 500,000 Corvette owners in the United States today. Rather than selling them the parts most dealers supply, LeKander, 37, concentrates on high-profit-margin items—such custom accessories as car covers, aluminum wheels, and interior parts. Retail customers, who account for 70% of his business, can order by credit card or COD. LeKander's 600 wholesale customers are denied credit as well; instead he encourages them to keep $10,000 on account by offering a discount price.

The business has grown some 1,220% in five years, from one man in a garage to a 35-person staff. Now LeKander plans to promote his wife, Peggy, to the company presidency and spend his time fishing and working on a 150-page catalog for the company. He still owns a Corvette himself, but in the business it will be Peggy in the driver's seat.—*C.H.*

The articles in this section were researched and written by INC. *staff members Curtis Hartman, Robert A. Mamis, Bruce G. Posner, and Robert C. Wood.*

THE INC. 500

The Private 500 represent 44 states. Geographically, the West wins again on the strength of California's 84 companies—more than twice as many as any other state.

Company (by rank)	Percent Increase	'81 Sales ($000)	Business description
101. KMW Systems (Austin, TX)	1,119%	$ 2,043	Mfr. computer data commun. equip.
102. Systems Strategies (New York)	1,118	2,436	Software consult. to banks, brokerages
103. Golden Corral[1] (Raleigh, NC)	1,117	107,969	Family steakhouses
104. Brady Marketing (Concord, CA)	1,100	6,000	Whisler, marketing gourmet cookware
105. Metro Info. Services (Virginia Beach, VA)	1,100	1,200	Computer software
106. Thermal Engineering (Tucson)	1,087	1,768	Waste water, heat-recovery, pumping systems
107. David Boland (Titusville, FL)	1,080	3,712	General contractor
108. Beacon Communications (Acton, MA)	1,077	16,869	Communications services
109. Commercial Prpty. Serv. (Cleveland)	1,077	13,423	Building-maintenance, security
110. Los Alamos Technical[1] (Los Alamos, NM)	1,070	5,850	Consulting engineers, energy/environ.
111. LaMarca Group (New York)	1,063	15,681	Advertising media/marketing services
112. Private Ledger Financial Serv. (San Diego)	1,058	22,000	Securities brokerage
113. Selective Personnel[1] (East Brunswick, NJ)	1,050	2,876	Personnel agency
114. Sunmaster (Corning, NY)	1,040	2,850	Mfr. solar heating/cooling systems
115. Amperif (Chatsworth, CA)	1,005	10,500	Mfr. memory systems
116. Sutter Cos. (West Palm Beach, FL)	991	26,065	Real estate development
117. Tarrant Service Agency (Louisville)	980	2,182	Air conditioning/heating equip. distrib.
118. Cook Machine (Duncan, OK)	974	5,682	Mfr. oil-field equip.
119. Medata (Santa Ana, CA)	961	4,504	Medical billing review service
120. Advanced Mtg. & Devel. (Willits, CA)	960	1,598	Precision sheet metal, machining
121. Vector Group[1] (Springfield, VA)	955	4,750	Data processing mini/micro computers
122. Sonic Air Courier (Inglewood, CA)	955	5,800	Air courier
123. Perfusion Services (Brighton, MI)	951	3,253	Medical services, surgical personnel, equip.
124. Wornick (Burlingame, CA)	946	35,063	Food processing/packaging
125. Pertron Controls (Canoga Park, CA)	936	4,007	Mfr. microprocessor controllers
126. Granite Financial (Sacramento)	936	11,450	Mortgage banking/brokerage
127. Kabo Contractors (Orange, CA)	935	7,969	Reinforced concrete structures
128. Digital Systems House[1] (Batavia, IL)	933	3,100	Distrib. computers; dvlp., mkt. software
129. Houston Copy (New York)	931	1,100	Quick printing, copying
130. American Technical Serv. (Tucker, GA)	908	13,136	Instrument-control syst. engineering
131. Universal Energy Syst. (Dayton)	908	3,756	R&D, export, scientific instruments
132. Commercl. Glass & Glazing (Mesa, AZ)	906	4,321	Glazing contractor, retailer
133. Alamo Consulting Group (Walnut Creek, CA)	900	1,200	Publish. license mgmt. programs
134. D&D Services (Phenix City, AL)	898	1,762	Janitorial services
135. Technology Transfer Inst. (Santa Monica, CA)	896	2,304	Computer education, consulting services
136. PBS Computing (St. Paul, MN)	892	2,774	Data computer services, equip., software
137. O'Donnell Organization (New York)	874	1,914	Advertising services, merchandise
138. Interwest Communic. (Denver)	870	4,900	Sales/installation business telephones
139. Sun Valley Waterbeds (Phoenix)	869	11,049	Retail waterbeds, bdrm. furniture
140. Ava Care[1] (Dallas)	868	16,784	Direct sales cosmetics/ vitamins/minerals
141. Data Translation[1] (Marlboro, MA)	867	6,783	Mfr. microcomputer data acquisition syst.
142. Data Systems Design (San Jose, CA)	867	23,200	Mfr. disk memory systems
143. Hackney Investig. & Secty. (Greensburg, PA)	861	1,027	Security serv./ private investigations
144. Fresh-Pak Shrimp (Venice, FL)	858	4,913	Fresh, frozen seafood products
145. Dinneen Excavating (Columbus, OH)	856	2,606	Underground utility contractor
146. Centec[1] (Reston, VA)	851	4,437	Process eng./microsyst.
147. PSI Process Systems (Memphis)	829	9,927	Engineers grain processing plants
148. Polymer Plastics (Mountain View, CA)	829	1,010	Wholesale distrib. plastic materials
149. Décor[1] (Fairfield, AL)	820	18,326	Mfr. decorative paneling
150. Graphic Technology (Lenexa, KS)	817	2,858	Mfr. bar code, pressure-sensitive labels
151. Diamond Enterprises[1] (Salt Lake City)	816	6,293	Homeowner rental ctrs.; gas stations
152. Transalaska Data Syst. (Anchorage, AK)	813	4,856	Sales/service, commun. equip., microcomp.
153. L. J. Russo Ins. Serv. (Emeryville, CA)	812	5,242	Claims adm. service, insurance
154. Style Auto (Tarzana, CA)	809	2,700	Design, mfr. motor sports outerwear
155. Automation Electronics (Oakland, CA)	806	7,748	Mfr./sales, telecommunications equip.
156. Crafco[1] (Chandler, AZ)	805	6,991	Mfr. asphalt seal., road repair mach.
157. Controlonics (Westford, MA)	801	20,517	Consumer electronics, communications
158. Dav-El Livery Services (New York)	800	9,000	Chauffeured limo rentals
159. Digitize (Lake Hopatcong, NJ)	798	1,058	Mfr. high-tech. alarm syst.
160. Comsearch (Reston, VA)	795	2,086	Engineering service telecommun. syst.
161. Summagraphics (Fairfield, CT)	790	24,000	Mfr. computer-aided design sys.
162. Astre (Charlottesville, VA)	784	12,196	Microbio. R&D services
163. Vanguard Plastics (McPherson, KS)	778	4,160	Mfr./sales polybutylene plumbing pipe
164. Microcomputer Systems[1] (Sunnyvale, CA)	772	15,483	Mfr. disk-drive control. memory syst.
165. Bemark Group (Houston)	771	3,998	Mfr., wholesale sportswear
166. Kent Electronics (Houston)	769	8,607	Electronics distributor
167. Roscom (Trenton, NJ)	767	2,600	Plastic raw materials
168. Xantek (San Marcos, CA)	766	14,956	Mfr. DC power supplies, transformers
169. Webb, Murray & Assoc. (La Porte, TX)	747	1,957	Loss control syst., engineer./construct.
170. Corporate Funding (Grand Rapids)	743	1,425	Equipment lessor
171. David M. Griffith & Assoc. (Northbrook, IL)	742	4,258	Cost acctg. serv. to gov't.
172. Ruiz Food Products (Tulare, CA)	739	6,035	Mfr. frozen Mexican food
173. Chemical Oil Recovery (Bakersfield, CA)	736	3,254	Oil-recovery operations
174. Service Indus. of Amer.[1] (Tucson)	735	8,351	Indust. maint. supplies
175. Jewell Building Systems (Dallas, NC)	734	2,023	Mfr./fabricate metal buildings, homes
176. NEOPC (Leominster, MA)	733	2,500	Mfr., distrib. natural foods
177. SUSPA (Grand Rapids)	727	7,545	Mfr. press. cylinders for motors, computers
178. Custom Decor (Dover, DE)	725	2,340	Importer/wholesaler of giftware
179. North Star Computers[1] (San Leandro, CA)	721	21,500	Microcomputer syst. mfr.
180. Lanco Knitwear (Ephrata, PA)	719	7,091	Mfr. circular-knit fabrics, garments

1/ Ranked among the INC. Private 100 companies in 1981. */ Net income as % of sales: A. 16% or more; B. 6%-15%; C. 1%-5%; D. loss.

500

More than two-thirds of the 500 companies were founded in the last decade. Four out of 5 have grown internally—and all but 13 companies are operating in the black.

Company (by rank)	Percent Increase	'81 Sales ($000)	Business description
181. Branson Aircraft (Denver)	715	1,250	Custom business aircraft equipment
182. Stoops Express[1] (Anderson, IN)	715	15,044	Interstate regulated motor carrier
183. Danyi (Moorestown, NJ)	713	2,516	Mfr. electronic office control syst.
184. Kotech (San Jose, CA)	712	36,501	Engineering consultants power ind.
185. Dr. Cully's Cartage (Hunt Valley, MD)	711	1,023	Trucking and warehousing
186. Contract Furnishings & Syst. (New York)	711	12,968	Office furniture, systems dealers
187. Conmed (Medina, NY)	708	1,121	Mfr./distrib. medical devices
188. Reef Petroleum (Traverse City, MI)	694	26,506	Oil, gas exploration
189. Business Telephone Syst. (Columbus, OH)	693	18,899	Sales/service telephone systems
190. Doug Martin (Charleston, WV)	692	1,224	Retailer, athletic footwear/ clothing
191. Therisult's (Annapolis, MD)	692	2,400	Auction/appraisal, antique dolls
192. Systems Engineering (Cherry Hill, NJ)	687	15,030	Naval eng. and support serv.
193. Morgan Manufacturing[1] (Paris, IL)	683	3,915	Mfr., pet food flavors
194. Benatty (Cambridge, OH)	682	11,337	Oil, natural-gas producers
195. Allegro Services (Tucker, GA)	680	4,088	Wholesaler, promotional items (fund raising)
196. Computer Science Press (Rockville, MD)	679	1,028	Publisher of computer/ engineering texts
197. Coastal Compression Serv.[1] (New Iberia, LA)	678	2,461	Services to petroleum/ natural gas ind.
198. Bloom Electric Services (Oklahoma City)	677	4,000	Electrical services
199. Pretty Neat Industries (Pompano Beach, FL)	677	3,766	Mfr. personal-care kits
200. Univrsty. Business Mach. (Darby, PA)	669	1,396	Retailers, calculators/ microcomputers
201. Cherokee of California (Gardena, CA)	664	33,178	Mfr. women's shoes
202. Gator Transportation (Orlando)	662	2,747	Cable-TV services, video games
203. Oxford Software (Hasbrouck Heights, NJ)	661	5,266	Computer software dvlp./ sales
204. Web Printing Control (Elk Grove Village, IL)	658	2,110	Aux. controls, offset print. press
205. Hughes Drilling (Enid, OK)	656	27,991	Oil, gas drilling contractor
206. Simiran (Medway, MA)	653	2,685	Mfr. training simulators
207. Research Plastics (Salem, MA)	648	4,300	Mfr. protective covers for pools
208. Inst. for Business & Tech. (San Jose, CA)	647	809	Priv. vocational educ.
209. Research, Analysis & Mgmt.[1] (Rockville, MD)	647	3,613	Naval support services
210. Attridge Heating & Cooling (Tempe, AZ)	642	816	Mfr./sales, cooling systems
211. One Pass (San Francisco)	621	3,180	Tech. creative services, film/TV
212. Amigo Sales (Bridgeport, MI)	618	9,289	Mfr. electric wheelchairs
213. Queen Oxygen (Worthington, OH)	618	3,408	Welding supply distributor
214. Bolliger (Stamford, CT)	610	6,133	Domestic/int'l. moving/ storage
215. Polymer Devel. Labs (Huntington Beach, CA)	610	5,948	Polyurethane chemical syst.
216. Technical Aid (Newton, MA)	610	81,021	Contract personnel services
217. Specialty Office Machines (Fond du Lac, WI)	609	1,800	Whsle./retail office mach.
218. Ag Asset (Salem, NY)	608	3,251	Dairy cattle sales/leasing
219. WLC Industries (Woodstock, GA)	608	12,110	Retail/contract art, gifts
220. L&M Enterprises (Berthoud, CO)	604	1,906	Landscape contractor
221. Atlantic Fire Systems (Raleigh, NC)	604	1,909	Mfr. restaurant ventilation systems
222. Urban Mgmt. Consultants (San Francisco)	602	2,530	Develop, operate training prog.
223. Dallas-Fort Worth Distrib.[1] (Dallas)	602	7,420	Furniture wholesaler
224. Robert Douglass Assoc. (Houston)	600	2,940	Hospital/health-care consult.
225. K.S.[1] (St. Paul, MN)	600	3,500	Carpeting service
226. Nucleus (Oak Ridge, TN)	598	3,902	Mfr. nuclear instruments
227. P E Systems (Alexandria, VA)	597	2,210	Engineering, govt. communic.
228. Phone Directories[1] (Provo, UT)	595	1,829	Publisher, phone directories
229. Pacific Envelope (Anaheim, CA)	594	1,526	Mfr. envelopes
230. Windham (Pensacola, FL)	594	15,465	Own, operate hotels, motels/condos
231. Pritsker & Associates (West Lafayette, IN)	592	2,168	Computer simulation, software consulting
232. Delta Education (Nashua, NH)	592	3,857	Mfr./publ. science, math materials
233. Leichtung (Cleveland)	589	5,360	Mail order, fine tools
234. Nav-Com (Deer Park, NY)	585	1,940	Marine electronic syst. distributor
235. Input[1] (Mountain View, CA)	585	4,543	Consult. info. industry
236. Vectran (Pittsburgh)	584	1,629	Remote control systems
237. Century Data Systems[1] (Raleigh, NC)	582	6,400	Sales, serv., syst. design
238. American Color (Phoenix)	580	11,629	Four-color separation, and film preparation
239. C.M. Mascolo (Phoenix)	578	4,300	General contractor
240. Ponta Systems Intl. (Baltimore)	574	10,392	Computerized photocomposition
241. Denver Spectrum[1] (Denver)	570	2,600	Color separations/ custom stripping
242. Brock Intl. Security[1] (Middlebury, VT)	568	5,954	Security services
243. East Coast Machine & Iron Works (Bridgeton, NC)	567	5,618	Steel fab./erection; rubber lining
244. Billings & Gage Mfg. (Mitchellville, IA)	567	1,292	Mfr. desserts
245. Munsen's Discovery Ent. (Hinsdale, IL)	563	7,902	Motor coach tours
246. Organizational Dynamics (Burlington, MA)	563	2,319	Design dvlp./mkt. training programs
247. Crum Electric Supply[1] (Casper, WY)	561	6,352	Whsle. electrical supplies
248. Little Barn (Little Rock)	559	1,259	Furniture retailer
249. Astro Wire & Cable[1] (Worcester, MA)	557	9,963	Mfr. electrical wire, cable
250. Sachs/Freeman Assoc. (Bowie, MD)	555	4,838	Eng. consultant, software devel.
251. Spaulding & Slye (Burlington, MA)	554	51,853	Real estate dvlp./brokerage
252. Blue Dolphin Enterprises (San Diego)	552	1,780	Wholesale/mail-order/publ.
253. Riverside Central Serv. (Natchez, MS)	550	1,179	Storage, nuclear plant parts
254. Advanced Image (Glendale, CA)	547	9,056	Sales/serv., copy mach., commun. equip.
255. Electronic Seating Syst. (New York)	546	80,952	Design/operate reservations systems
256. Systems Architects (Randolph, MA)	543	8,668	Computer technology R&D
257. Metaltech (Kirkwood, MO)	541	2,215	Mfr. rain-carrying goods, gutters
258. Micro-Metal (Indianapolis)	540	2,801	Mfr. access. for HVAC equip.
259. Reactive Metals & Alloys[1] (West Pittsburg, PA)	540	29,306	Mfr. indus. alloys/additives
260. Heritage Log Homes (Gatlinburg, TN)	539	1,851	Mfr./mkt. log home kits

1/ Ranked among the INC. Private 100 companies in 1981. */ Net income as % of sales: A. 16% or more; B. 6%-15%; C. 1%-5%; D. loss.

500

Bolstered by a strong contingent of wholesalers, service companies outpace manufacturers almost three to one. About one in four companies are tagged 'high tech.'

Company (by rank)	Percent increase	'81 Sales ($000)	Business description
261. Manuel A. Casiano (San Juan, Puerto Rico)	538	1,912	Publish business newspaper
262. Raven Syst. & Research[1] (Washington, DC)	536	8,700	Info. processing/programming
263. Re.nco (Mechanicsburg, PA)	532	1,577	Refrig./elec./mech. contractor
264. Jon Rich Displays (St. Petersburg)	529	1,075	Mfr. displays, trade shows
265. Electro-Test (San Ramon, CA)	524	3,745	Elec. power syst. testing, engineering
266. Horwath Electric Motors (Erie, PA)	524	773	Electrical equip. repair
267. Design 1[1] (Los Angeles)	523	3,113	Commercial interior design
268. Phillips Publishing (Bethesda, MD)	521	4,912	Newsletter publisher
269. Unitronix (Somerville, NJ)	520	6,200	Distrib., computers syst.
270. Cameo Fashion Access. (Beverly Hills, CA)	518	1,243	Wholesale jewelry
271. Design & Image Assoc. (Denver)	517	1,148	Graphic design
272. Amer. TV & Appliance (Madison, WI)	515	80,507	Retailer, furniture/appliances
273. Tenco Industries (Elk Grove Village, IL)	512	2,745	Mfr. metal-cutting machine tools
274. Scientific Systems Serv. (Melbourne, FL)	512	7,945	Process-control computer software
275. Condor Carrier (Lodi, OH)	511	3,067	Interstate transportation
276. Security Alarms & Fire Eng. (Davie, FL)	509	610	Install. alarm/intercom/ antennas
277. Summit Reprographic (Akron)	509	6,700	Distributor drafting supplies
278. D & S Metals (Dallas)	509	8,309	Metals distribution
279. Mainpro (Irving, TX)	508	2,456	Mfr. custom lubricants
280. Bassil & McNichols (Boston)	507	637	Retailer, gifts/cookbooks
281. Alley-Cassetty Coal (Nashville)	504	40,485	Coal brokerage
282. Setpoint (Houston)	504	3,959	Dev. indust. process control programs
283. Coating Specialists (San Antonio, TX)	502	2,666	Polyurethane foam roof systems
284. Aloe Charm (King of Prussia, PA)	502	6,000	Skin care, cosmetics
285. Lionex (Burlington, MA)	501	19,739	Distributor, electronic components
286. Connecticut Travel Serv. (New Britain, CT)	500	12,000	Travel agency
287. Anadex (Chatsworth, CA)	499	25,102	Mfr. computer output printers
288. Analysis & Technology (North Stonington, CT)	498	19,713	Tech. support services
289. IDM Controls (Houston)	495	5,323	Sales/serv. motor control syst.
290. Morino Associates (Vienna, VA)	492	4,442	Dvlp./mktg. computer software
291. Numanco[1] (Pawtucket, RI)	491	8,693	Technical support services
292. Seaboard Energy Syst. (Virginia Beach, VA)	486	1,001	Mfr. computer-based management syst.
293. Elcan Investments[1] (Mobile, AL)	486	3,273	TV, appliance rental
294. Compuware (Birmingham, MI)	484	11,280	Info. syst. services; computer software
295. Bepco (Winston-Salem, NC)	481	1,700	Rebuild heavy equip. parts
296. Catalyst Technology (Buckner, KY)	478	10,920	Catalyst handling service
297. Custom Recording & Sound (Greenville, SC)	474	948	Recording serv., equip.
298. Tideland Petroleum Serv. (Alta Loma, TX)	474	4,344	Offshore facilities install./ fabrication
299. EDM Precision Products (Fort Lauderdale, FL)	471	1,394	Aerospace contract mfr.
300. Western Trailer Equip. (Abilene, TX)	470	5,773	Semi-trailer sales/parts/serv.
301. Northwest (Wichita)	470	2,861	Single-ply roofing contractor
302. Duff's Enterprises (Lebanon, OH)	465	48,009	Smorgasbord restaurants
303. MBT Associates (San Francisco)	463	4,262	Architects
304. Jer-Way of Texas (Brownsville, TX)	462	4,286	Wholesale sash, door, millwork jobber
305. Saddlebrook[1] (Cambridge, MA)	459	14,141	Minicomputer distributor, bank ind.
306. Ilam Publications (Oakland, CA)	458	1,407	Music magaziner publisher
307. DuCair Bioessence (North Bergen, NJ)	455	6,036	Mfr. gift cosmetics
308. Seavex Limited (Boston)	453	1,039	Publishers' ad rep.
309. Sportsman's Emporium (Philadelphia)	453	18,331	Distrib. hunting equip., firearms
310. Precision Tune (Beaumont, TX)	452	5,303	Automotive tune-up franchise
311. Tarpon Electric (Palm Harbor, FL)	449	1,869	Elec. construction/design
312. Concord Carpet Mills (Dalton, GA)	449	9,589	Carpet mfr./ sales
313. S.F.C. (Torrance, CA)	444	9,901	Computer-related furniture
314. JWK International (Annandale, VA)	442	7,747	Gov't. contracted R&D
315. Steven H. Adler (New York)	442	661	Insurance/consultants retirement plan
316. Resource (Tampa)	441	2,114	Dvlp./sales audio-visual training prod.
317. Wiedemann & Johnson (Dallas)	438	9,610	Executive benefit plans
318. Career Blazers Personnel[1] (New York)	436	10,462	Permanent/temp. employment svs.
319. Action Instruments (San Diego)	434	14,193	Mfr. electronic measurement and control instru.
320. Kolin Plumbing (West Babylon, NY)	434	2,799	Plumbing syst. installation
321. Data Design Associates (Sunnyvale, CA)	434	4,430	Dvlp./mkt. financial software
322. Harold E. Hammond (Fort Worth)	433	752	Hand distrib. printed materials
323. Eastway Delivery Service (Houston)	432	2,236	Local freight delivery
324. American Foundry Group (Bixby, OK)	430	9,694	Castings foundry
325. Mktg. Corp. of Amer. (Westport, CT)	429	61,414	Consumer marketing service
326. Sasquatch Publishing (Seattle)	429	1,306	Publishers, local news mag./guidebk.
327. Polk Audio[1] (Baltimore)	427	4,828	Mfr. hi-fi speaker systems
328. Chemco Valve & Fittings (Houston)	427	2,637	Distrib. ind. pipe/valves/ fittings
329. Management Decision (Waltham, MA)	427	16,126	Software, consulting
330. Macom Industries (Van Nuys, CA)	426	5,337	Import/sales, antenna syst. components
331. Software Module Mktg. (Sacramento)	425	2,100	Mkt. IBM mainframe software
332. Phoenix Reforestation (Eddyville, OR)	424	545	Reforestation serv., tree farms
333. Fastenal (Winona, MN)	424	3,691	Wholesale dist. fasteners, hardware
334. Scopus (Lowell, MA)	422	4,620	Computer library mgmt.
335. Xylogics (Burlington, MA)	422	9,547	Dvlp./mfr./sale microprocess. controls
336. Miller Oil (Norfolk, VA)	421	22,500	Petroleum products distrib.
337. Kaye Instruments (Bedford, MA)	421	13,530	*Mfr. microprocessor-based computer equip.
338. Novatec (Lombard, IL)	420	1,962	Design/mfr. electronic prod.
339. Frank Scott Enterprises (Aptos, CA)	418	10,422	Financial services, venture capital
340. Beacon Sales (Jacksonville, FL)	416	7,268	Commercial construct. subcontractor

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500

Most of the 500 companies will keep growing in the year ahead, but you can also bet that several will go public, a couple will sell out, and at least one will end up bankrupt.

Company (by rank)	Percent increase	'81 Sales ($000)	Business description
341. Rehler Vaughn Beaty & Koone (San Antonio)	415	1,600	Bldgs./landscape architech; interior des.
342. National Emergency Serv. (Tiburon, CA)	415	16,400	Staffing/ mgmt., hosp. emergency dept.
343. Doty's, T.J., Image-Makers (Santa Barbara, CA)	413	514	Photo finish., audio visual commun.
344. Corpane Industries (Louisville)	409	1,346	Mfr. ind. cleaning/finishing syst.
345. Rawcliffe (Providence)	405	2,163	Mfr. pewter giftware
346. Overhead Control Syst. (Bellevue, WA)	405	1,003	Sales/serv. beverage dispensing sys.
347. American Intl. Security (Shreveport, LA)	404	2,172	Security/alarm; guard svs.
348. Vintage Selections[1] (Scottsdale, AZ)	403	3,123	Wine importer/ distributor
349. D.R.I. Industries (Bloomington, MN)	403	38,876	Mail-order handyman prod.
350. Aaron's Office Furniture (Lincolnwood, IL)	400	10,000	Office furniture retailer
351. Chemsize (Travelers Rest, SC)	400	5,500	Mfr. chemicals; steel galvanizer
352. TLA (Santa Monica, CA)	400	6,000	Travel agency
353. Acme Canvas (Malden, MA)	399	10,750	Mfr. ind./ recreational textile prod.
354. Aquatic Pool Builders (Houston)	399	3,138	Residential swimming pool construction
355. Tele-Pages (Parsippany, NJ)	397	1,636	Local ad directories
356. General Physics (Columbia, MD)	393	23,685	Training, eng. serv. for nuclear util.
357. Specialty Surfacing (Honolulu)	392	825	Recreational surface construction/finishing
358. Vocational Training Ctr. (St. Louis)	392	1,039	Trade school
359. Siegel Ruggiero Design Graphics (New York)	386	670	Photo studio; ad agency
360. Titan Protection Services (Sunnyvale, CA)	384	4,200	Private patrol
361. Bio-Tek Instruments (Burlington, VT)	381	2,230	Mfr./design medical instrumentation
362. Forum Corp. of N. Amer. (Boston)	380	10,470	Dvlp. perform.-improve. programs
363. Dombrowski & Holmes (Chicago)	380	1,320	Transport./cleanup hazardous waste
364. SLM Instruments (Urbana, IL)	379	2,215	Mfr. electro-optic instrumen.
365. Crazy Joe's (Kannapolis, NC)	379	2,738	Auto parts, access. retailer
366. Wild & Wooly Needle-crafts (Falls Church, VA)	377	2,008	Needlecrafts retailer
367. Numeridex[1] (Wheeling, IL)	376	8,005	Mfr. machine tool programming syst.
368. Teleram Communications (White Plains, NY)	369	4,016	Mfr. portable computers, terminals
369. Mediterranean Importing (Lake Success, NY)	367	5,600	Importer, Italian wines and specialties
370. Thayer Dental Laboratory (Mechanicsburg, PA)	366	515	Dental supplies laboratory
371. Sharpoint (Mohnton, PA)	365	7,356	Mfr. surgical products
372. Northern Air Freight (Seattle)	365	21,278	Air freight forwarding
373. Account-A-Call (Burbank, CA)	360	2,182	Phone account software/ service bureau
374. Pallet City (Chicago, IL)	360	3,538	Mfr./repair wooden pallets
375. Cathedralite Domes (Capitola, CA)	358	2,828	Mfr. energy-efficient prod., geodesic domes
376. American Business Lists (Omaha)	356	3,860	Publisher of business lists
377. VIP Enterprises (Miami, FL)	355	3,380	Waterproofing sealants/ coatings
378. Ray's Mobile Home (Bakersfield, CA)	355	1,940	Manufactured-home sales
379. Daniel Co. of Springfield (Springfield, MO)	354	3,908	Common/contract motor carrier
380. Information Bureau (Dallas)	354	2,200	Financial newsletters
381. Romano Temp. Personnel (San Francisco)	354	2,114	Temp. personnel
382. McMorris & Associates (Atlanta)	353	1,821	Health-food restaurants
383. Colorado Boxed Beef (Auburndale, FL)	350	40,203	Wholesale meat distributor
384. California Cash Register (Downey, CA)	349	1,902	Distrib. terminals, coin dispensers
385. MGR Equipment (Inwood, NY)	349	1,395	Mfr. ice/refrig./AC equip.
386. Progressive Driver Serv. (Jacksonville, FL)	347	15,806	Contract driver leasing
387. Headquarters Cos. (San Francisco)	347	5,573	Nat'l. executive office ctrs.
388. Optronics Specialty (Chatsworth, CA)	347	1,498	Mfr. electronic photog. tools
389. Bay State Carbide Prod. (Barrington, NH)	346	1,478	Mfr. cutting tools
390. Temporaries (Washington, DC)	346	34,128	Temp. personnel
391. Superior Indus. of Neb. (Omaha)	345	23,526	Design/bld./insulate cold storage fac.
392. Stratabolt (Pelham, AL)	342	2,433	Mfr. mine support/ ventilation prod.
393. Electronic Engineering (Brecksville, OH)	342	23,092	Phone/word process syst. sales, service
394. Central Coated Products (Alliance, OH)	342	3,379	Mfr. waxed/oiled pkg. papers
395. Pixley Richards West (Tempe, AZ)	342	10,600	Precision molding/assembly of plastic prod.
396. N. American Brokerage (Bala-Cynwyd, PA)	341	3,750	Financial brokerage prod.
397. Dowdell (Sacramento)	340	1,889	Equipment financing; mortgage banking
398. Advanced Marine Enterp. (Arlington, VA)	336	5,333	Naval architecture, marine eng.
399. General Aero Products (Copiague, NY)	335	8,090	Mfr. aircraft control syst./ instruments
400. Southwestern Directory (Oklahoma City)	334	2,703	Publish telephone direct.
401. American Shifty (N. Little Rock, AR)	333	993	Wholesale/retail truck transmissions
402. Superior Supply (Marion, IN)	331	919	Distributor bldg., maintenance supplies
403. Planning Systems (McLean, VA)	330	5,026	Research/anal. of naval warfare syst.
404. Professional Book Dist. (Columbus, OH)	329	4,434	Book-order fulfillment
405. Midwest Office Systems (Marshalltown, IA)	327	4,700	Market office products, serv.
406. Arus Andritz (Arlington, TX)	326	15,880	Assembly, sales separation equip.
407. Ultimate Nut & Candy (Studio City, CA)	323	1,137	Retail confectionary
408. Ad Factors Mktg. Rsrch. (Glen Ellyn, IL)	321	2,802	Consumer/indus.survey rsrch.
409. Sage Systems (Bethesda, MD)	319	2,878	Mfr., sales computer software, service
410. Mogas Industries (Houston)	316	4,191	Mfr. specialty ball valves
411. Power Eng. & Mfg. (Waterloo, IA)	316	1,567	Mfr. gear boxes
412. Industrial Sciences (Gainesville, FL)	312	2,917	Mfr. audiovisual process. equip.
413. Basic Concept (Paterson, NJ)	311	3,700	Mfr. portable lamps
414. Austin Nelson[1] (Austin, TX)	310	13,492	Gen'l. contractor, commercial const.
415. Media Recovery (Graham, TX)	309	4,175	Computer accessories sales/service
416. Seneca Balance (Depew, NY)	308	1,000	Test balance HVAC syst.
417. Knight Equipment[1] (Costa Mesa, CA)	307	4,302	Mfr. electronic pumps
418. Universal Fire Equipment (Dallas)	305	3,248	Sale/service commercial fire equip.
419. Cyberex (Mentor, OH)	305	11,489	Mfr. elect. power conditioning equip.
420. Hekimian Laboratories (Gaithersburg, MD)	305	11,935	Mfr. telecom. systems/ instrument.

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500

Led by a Seattle furniture wholesaler, 65 of last year's Private 100 companies remain on this year's roster of 500. Only 25 of them, however, are still among the top 100.

Company (by rank)	Percent Increase	'81 Sales ($000)	Business description
421. Federated Group (City of Commerce, CA)	305	60,710	Retail home entertainment centers
422. McDonald Equipment (Willoughby, OH)	302	9,455	Distrib. engines/engine-generator sets
423. Mid City Web (Chicago)	300	4,000	Web offset lithography
424. Drafting Graphics (Elk Grove Village, IL)	300	1,859	Printers, eng./drafting media
425. Command Plastic (Akron)	298	2,329	Mfr. heat-sealed vinyl packaging
426. Intl. Computer Programs (Indianapolis)	298	3,962	Computer software info. publisher
427. Tele-Terminals (Minneapolis)	298	6,942	Computers/data term./maint. sys./software
428. Conco Engineering (San Luis Obispo, CA)	295	2,312	Genl. eng. construction
429. Daw (Salt Lake City)	294	10,000	Interior construction/design
430. Calhoun's Collectors Soc. (Edina, MN)	294	28,257	Direct mail mktg., collectible items
431. TaxLogic (Richardson, TX)	294	938	Computerized income tax process. services
432. Video Tape Assoc. (Hollywood, FL)	294	5,081	TV/indust. training programs
433. Energy & Envrntl. Rsrch. (Irvine, CA)	289	6,972	High-tech. combustion eng.
434. Creative Professional (Woburn, MA)	289	1,217	Direct mail advertising serv.
435. Baylock Manufacturing (Leonard, MI)	288	8,567	Mfr. component parts for auto. mfrs.
436. Shannon (Kent, WA)	286	2,610	Electronic distrib./retailer
437. Chiswick Trading (Sudbury, MA)	286	5,909	Indust. distrib., flexible packaging
438. Cloverdale Equipment (Oak Park, MI)	286	6,905	Sales/services/rentals construct. equip.
439. ComTrac (Columbus, OH)	286	5,148	Transportation mgmt. info.
440. Morning Star (Eden Prairie, MN)	285	2,650	Publisher, posters/ calendars/stationery
441. Brenlin Group (Akron)	285	82,987	Mfr./distrib. truck parts
442. Ad-Market Attractions (Brooklyn, NY)	284	732	Mfr./distrib. display lettering
443. K&L Microwave (Salisbury, MD)	284	6,527	Mfr. RF/microwave filters
444. Multiple Technologies (Southfield, MI)	283	11,131	Productivity prod., payroll systems
445. Associated-General (Anchorage, AK)	280	1,466	General contractor
446. Idea Man (Los Angeles)	277	6,652	Ad. specialties, gifts, and incentive prog.
447. Texas Corp. Supplies (So. Houston, TX)	275	532	Legal supplies
448. Quintron (Quincy, IL)	275	5,387	Mfr. mobile radio/paging base stations
449. Futures Personnel Serv. (Baltimore)	274	376	Exec. recruitment/placement
450. Kastle Systems (Arlington, VA)	274	3,378	Central station secur./ energy mgmt. sys.
451. F.H. Chase (Avon, MA)	274	3,819	Install interior syst.
452. D.C. Taylor (Cedar Rapids, IA)	273	12,849	Exterior construction, roofing
453. A.J. Walters (Bridgeport, CT)	273	2,691	Design/mfr. material handl./scaling sys.
454. Lynn-Edwards (Sacramento)	272	23,074	Whslr., office products
455. American Int'l Ins. (St. Louis)	270	3,700	General insurance agency
456. Robertson's Auto Salvage (Wareham, MA)	269	4,105	Late-model auto salvage
457. Comsonics (Harrisonburg, VA)	269	2,637	CATV services/products
458. Calif. Plant Protection (Van Nuys, CA)	269	84,785	Security guard service
459. Cajac Portable Buildings (Oklahoma City)	268	1,586	Mfr./sales, portable buildings
460. Entropy Environmentalists (Rsrch Triangle Park, NC)	268	3,074	Air-pollution testing

Company (by rank)	Percent Increase	'81 Sales ($000)	Business description
461. Alarmingly Safe & Sound (Hollywood, NY)	267	1,529	Security systems svs.
462. Process Efficiency Prod. (Los Angeles)	266	1,170	Mfr. water filters
463. Sprott Oil (Manning, SC)	263	12,250	Petroleum distribution
464. H. Loney Construction (Brattleboro, VT)	262	4,272	General contractor
465. Creative Mgmt. Syst. (Vienna, VA)	262	493	Telecommun. software
466. CTEC (McLean, VA)	262	6,702	Computer systems and operations analysis
467. Controlled Syst. of Wisc. (Nashotah, WI)	260	607	HVAC contractor
468. Merco (Milwaukee)	260	11,014	Distrib. appliances garden equip.
469. Construction Mgmt. (Knoxville, TN)	260	23,285	General contractor
470. Acctex (San Francisco)	258	7,332	Temp./perm. placement, office personnel
471. Southeastern Medequip (Jacksonville Beach, FL)	257	454	Med. equip. rent./sales/serv.
472. Rundel Products (Portland, OR)	257	5,036	Mfr. vinyl binders, tabs
473. Telspan (Long Island City, NY)	256	2,519	Sales/install./maint./phone systems
474. Diversified Graphics (Little Rock)	255	2,349	Typesetting, graphic arts
475. Pacific-Sierra Research (Los Angeles)	252	7,265	Technical services, electronic sys.
476. Martin Instrument (Livonia, MI)	251	16,480	Distrib. architec., art supplies/furn.
477. Homecraft Marketing (Englewood, NJ)	250	1,400	Mfr. wire prod. for home/ garden
478. Windamatic Systems (Fort Wayne, IN)	250	1,756	Mfr. winding mach. for electric motor ind.
479. Galaxy Business Prod. (Honolulu)	249	1,276	Office products
480. C.B. Thomas Construc. (Spofford, NH)	249	2,942	Drilling/blasting specialists
481. Olympic Controls (Elgin, IL)	248	2,672	Mfr. relays/switching devices
482. Rolling Hills Interiors (Torrance, CA)	248	1,169	Interior design
483. Russ Berrie & Co. (Oakland, NJ)	248	63,950	Mfr. gifts, toys
484. Lewan & Associates (Denver)	247	14,467	Office prod. sales/rental/ service
485. Meeco Timing Screw (Newtown, PA)	246	627	Design/mfr. pkg. equip.
486. DAQ Electronics (Middlesex, NJ)	246	2,040	Design/mfr. remote telemetry equip.
487. Financial Data Planning (Miami, FL)	245	8,272	Fin./actuarial software dvlp./sales
488. Coleman Cable Systems (North Chicago, IL)	244	26,690	Mfr. wire, cable
489. Ventura Associates (New York)	244	8,600	Sales promotion agency
490. Erie Creative Coatings (North East, PA)	244	865	Custom powder coatings
491. TV Cable Supply (Harsey, PA)	243	4,396	Full line supplier, CATV industry
492. Leisure Environments (Wheat Ridge, CO)	243	1,302	Sales, saunas, hot tubs
493. Tri-Valley Supply (Westlake Village, CA)	242	719	Retail/whsle. maintenance products
494. Ctr. for Profess. Advance. (E. Brunswick, NJ)	241	7,216	Technical/scientific continuing educ.
495. National Computer Print (Birmingham, AL)	240	2,454	Mfr. coupon books for banks
496. Pinson Valley Heat Treating (Birmingham, AL)	239	1,067	Metals heat treating service
497. Mahoney & Wright Ins. (Boston)	238	17,600	Insurance agents, advisers
498. Cartwright Communic. (Cincinnati)	238	2,662	Electronics distributor
499. David Langer & Co. (Los Angeles)	236	1,151	Whsle. distrib., games, toys
500. Termiflex (Nashua, NH)	235	1,596	Mfr. control/display units

1/ Ranked among the INC. Private 100 companies in 1981. */ Net income as % of sales: A. 16% or more; B. 6%-15%; C. 1%-5%; D. loss.

THE INC. 500

CLASS OF '81: OFF THE PACE BUT IN THE PACK

Led by A-America, a Seattle furniture wholesaler, 65 of the 1981 INC. Private 100 companies earned rankings among this year's expanded Private 500 roster (see Footnote 1, main tables, page 39). Of the 65, however, only 25 remain among the 100 front-runners.

What about the 35 1981 INC. Private 100 companies that didn't make the 1982 list? Thirteen of them closed 1981 with sales decreases, thus failing to qualify. The declines ranged from a mere 1% logged by Trend Group, a Pennsylvania-based equipment lessor (#41 in '81), to precipitous drops of more than 50% registered by at least four other companies.

Three other 1981 Private 100 companies grew in the 1977–81 base period but missed the +235% cutoff point of this year's top 500. They include Progressive Graphics (+214%), Wren Associates (+194%), and American Awning & Patio (+192%).

Four businesses were disqualified for reasons other than sales performance. As predicted in the December 1981 issue, two have sold out (Charles Schwab and Associated Druggists), one has gone public (Godfather's Pizza), and one has plunged into bankruptcy (Wayne H. Coloney).

The performances of the remaining 15 companies could not be charted. Exercising the unique right of closely held companies, principals in each case declined to disclose information for reasons ranging from changes in management to changes of heart.

HOW THE PRIVATE 500 WERE SELECTED

The 1982 INC. Private 500 is a charter roster of 500 of the fastest-growing privately held smaller businesses in the United States. To be included on the list, each company had to meet the following qualifications:

1. The company is an independent, privately held corporation, proprietorship, or partnership.

2. The company shows a sales history of at least five years, increase in sales from 1977 to 1981.) Companies founded after 1977 were excluded.

3. Sales in 1977 were at least $100,000 but less than $25 million.

4. The company's 1981 sales exceeded its 1980 sales. Companies showing growth in the five-year period, but a sales decline in 1981, were excluded.

While the criteria were relatively simple, the task of identifying the 500 finalists was complex, both because of the numbers of companies involved and because the project depended on data generally regarded as confidential. INC. estimates that the total universe of potential Private 500 candidates exceeded 470,000 companies. The research relied on two primary sources: INC. readers and in-house records. In addition, business groups, trade associations, and professional service firms were alerted to the search for high-growth companies by letter, advertisements, and personal contact.

Business reply cards inviting readers to nominate candidates for the Private 500 were inserted in INC.'s April, May, and June 1982 issues. Drawing on the publication's national circulation of more than 400,000, the cards generated more than 5,000 entries from April 1 to July 31. In-house database was screened to produce an additional 2,500 candidates, and another 2,000 names were added from directories and editorial files.

On August 20, data forms were sent to 9,500 company executives. More than 1,900 responses were received by the deadline of September 24. From those responses, more than 500 smaller privately owned companies whose sales had at least tripled in the past five years were identified and ranked by percentage gain in sales. Information on the top 500 was then verified through signed statements from company officers, support material from outside professionals, and telephone interviews with executives of each company.

The INC. 500 project was conducted by senior editor Bradford Ketchum Jr.; research editor Elyse Friedman; researchers Maura McEnaney, and Leslie Schultz; and interviewers Paul Lombino and John Persinos.

THE PRIVATE 500 PROFILE

The composite statistics of the INC. Private 500 offer a new measure of fast growth among smaller businesses. The group's sales jumped from $642 million in 1977 to $4.3 billion in 1981, at a compound annual rate of 61%. At the same time, employment soared by more than 53,000 jobs. Four out of 5 have grown internally, and all but 13 are profitable.

No. of companies by industry	
Manufacturing	133
Wholesale	83
Retail	
Food	7
Nonfood	35
Other services	210
Construction	29
Mining	3
Total sales in 1981 ($ bil.)	4.3
Percent change (1977–81)	+571%
Avg. sales in 1981 ($ mil.)	8.6
Avg. sales in 1977 ($ mil.)	1.3
Avg. sales per employee in 1981	$61,167
Avg. sales per employee in 1977	$37,873
Compound average annual sales growth (1977–81)	
Total	60.9%
Range	35%-246%
Median	58.6%
No. operating at a profit	487
Net income as % of sales	
(No. of companies)	
16% or more	54
6%–15.9%	253
0.1%–5.9%	180
No. acquiring other companies (1977–81)	110
No. founded since 1972	346
Avg. age (years)	10.2
Total no. of employees	
1981	70,359
1977	16,950
Percent change (1977–81)	+315%

TOP 20 PERFORMERS IN SALES PER EMPLOYEE*

Rank	Company (No. of employees)	Sales per employee
1.	Colorado Boxed Beef (15)	$2,680,206
2.	International Games (22)	1,472,313
3.	R.W.P. Johnson Associates (7)	981,130
4.	Concord Carpet Mills (10)	958,900
5.	LaMarca Group (21)	746,710
6.	Sprott Oil (21)	583,347
7.	Electronic Seating Sys. (140)	578,226
8.	TV Cable Supply (8)	549,526
9.	W-B Pump & Supply (51)	533,139
10.	Brady Marketing (12)	500,000
11.	Technology Transfer Inst. (5)	472,213
12.	Beacon Sales (16)	454,275
13.	Sportsman's Emporium (42)	436,456
14.	Memphis Glove (21)	419,324
15.	Superior Industries of Nebraska (60)	392,103
16.	Marketing Corp. of America (178)	345,022
17.	Contract Furnishings & Sys. (40)	324,200
18.	Metaltech (7)	316,470
19.	Aquatic Pool Builders (10)	313,849
20.	Unitronix (20)	310,000

** 1981 data. List excludes capital-intensive energy developers, brokers, and real estate and financial service firms.*

THE INC. 500

THE PRIVATE 500 INDEX (company and rank)

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Advanced Mfg. & Development (120)
Advanced Marine Enterprises (398)
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Alamo Consulting Group (133)
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Alley-Cassetty Coal (281)
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American International Security (347)
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American Pump & Supply (47)
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American Technical Services (130)
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Theriault's (191)
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Thomas, Carl B., Construction (480)
Three Rivers Computer (89)
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Titan Protection Services (360)
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Univox-California (90)
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Vector Group (121)
Vectran (236)
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Vermont Castings (37)
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Vocational Training Center (358)
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Webb, Murray & Associates (169)
Western Trailer Equip. & Mfg. (300)
Wiedemann & Johnson (317)
Wild & Wooly Needlecrafts (366)
Willis Cos. (51)
Windamatic Systems (478)
Windham (230)
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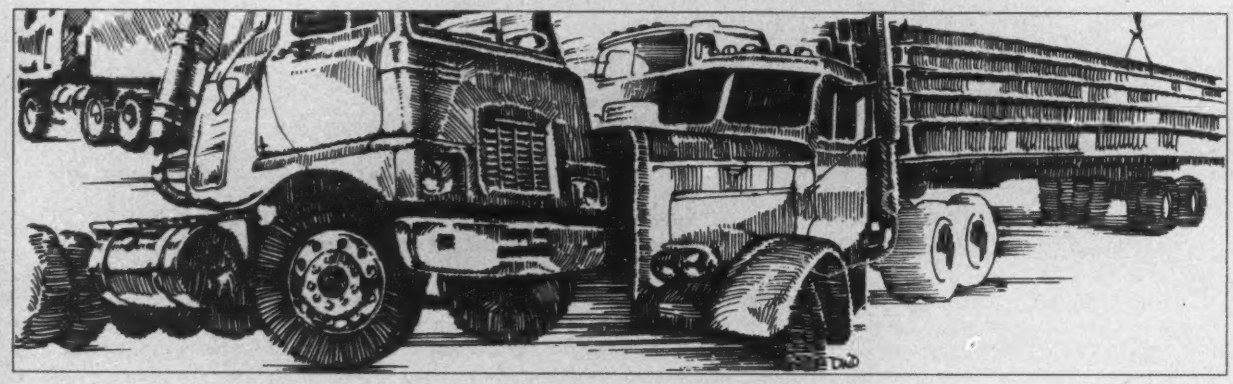
World Wide Chemicals (41)
Wornick (124)
Xentek (168)
Xylogics (335)
Yankee Group (70)

THE INC. 500

EXCEPTIONS TO THE RULE

Why some INC. 500 companies are growing in industries that aren't.



Some trucking companies have skirted the apparent perils of deregulation by broadening their customer base and utilizing low rates, nonunion status, and an emphasis on service.

The standard measure of profitability for trucking companies is the operating ratio—operating expenses divided by operating revenues. By that measure, the trucking industry is running on 18 flats. During the last quarter of 1981 and the first quarter of 1982, the magic number was 101%, meaning that, for every $100 in revenues, the industry lost a dollar.

"Carriers have been trying anything they can to make a buck," says Ron Roth, director of research and statistical services for the American Trucking Associations, "including giving their service away."

The rest of the economy may be depressed, but trucking is flat, out-of-gas, and no longer on the road. Since 1980, 193 companies have gone out of business, and another 52 have entered Chapter 11 bankruptcy proceedings—costing 45,000 jobs and $2.1 billion in revenues. Despite the desperate situation, a number of trucking companies—including 6 listed in the INC. Private 500—are burning up the highways. One, Ashcraft Trucking Inc. (#79), of Shelbyville, Ind., has an operating ratio of 92%, and has had a 1,328% increase in annual sales since 1977.

The six have managed to succeed through the use of tried-and-true techniques (aggressive marketing, reduced overhead, improved service), as well as by turning an apparent disaster to their own advantage. A sluggish economy, with fewer goods to move, is a major factor in the disaster, but deregulation is what broke trucking's back. Enacted in 1980, deregulation opened up entry into the business. "It led to a tremendous increase in the number of carriers [about 7,500 more]," notes Roth, "when all of the economic signs said capacity should be shrinking." The act also gave corporations with their own trucks the right to haul for wholly owned subsidiaries, taking even more business away from outside carriers.

"Instead of sitting around crying about what deregulation's done," says Glyndon R. Ashcraft, of Ashcraft Trucking, "we've become more aggressive. We're taking advantage of the provisions of the act." Under deregulation, Ashcraft obtained a general commodities operating authority, which permitted it to broaden its customer base. "We went from 50 customers before deregulation to some 250 to 300 today." Another benefit has been the rate-setting flexibility the act provides.

"Deregulation has just about allowed us to double our percentage of profit [from about 3½% to 7%]," he explains.

The company, which hauls everything from food to insulation, recently added three salesmen and is extending its fleet—13 tractors were purchased in September, bringing the total to 73, with 10 more planned before the end of the year. "When deregulation came along, we knew we were going to have to hustle," says Ashcraft, "and we have."

Another company making the most of deregulation is Condor Carrier Inc. (#275), of Lodi, Ohio, which used provisions of the act to shift its traffic lanes. "I looked at the economy and what geographical areas were growing fastest," explains president Hamilton W. Lord Jr., "and wound up concentrating on the South and Southwest." Condor used low rates to attract customers there—"it dipped into the profitability of the company, but we had business when we needed it"—and isn't griping about profits these days.

Revenues have increased 70% during the past year (up 511% since 1977), and Condor enjoys an operating ratio of 92% and a "comfortable" net income of 10%.

Lord, who calls himself a "nonconformist" operating an "uncommon" carrier, mentions Condor's nonunion status, minimal debt service, and secondhand trailers—"we purchased used trailers from a bankrupt fleet"—as other factors in his success.

Nonunion employees are also a most-valued asset at Dr. Cully's Cartage Co. (#185), in Hunt Valley, Md. The lack of Teamsters, says president David P. Cully (the "Dr." is an advertising gimmick that works), hasn't cut the company's expenses, but it has yielded a quality of ser-

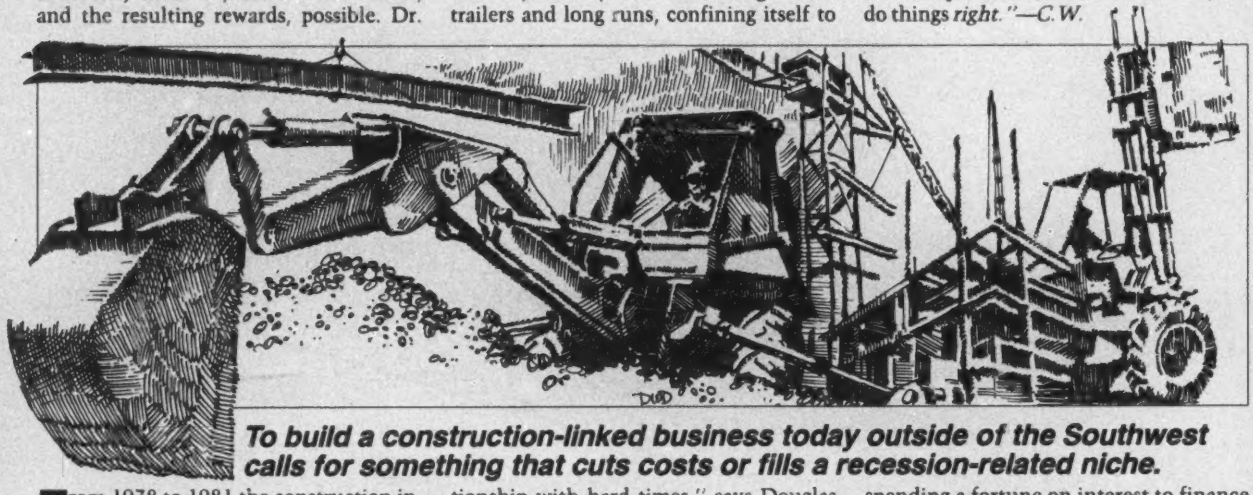
Illustrations by Don Demers

vice that might otherwise be unobtainable. "The manufacturers that we haul and store products for, such as Lever Bros. Co., are service oriented," he explains, "and they're willing to pay top dollar for top service."

An environment in which workers share tasks, and in which management is intimately involved, makes such service, and the resulting rewards, possible. Dr. Cully's revenues have increased 711% since 1977, and it has an operating ratio of 86%—one of the best around—with net profits currently running 6.8%.

Another trucker defying the post-deregulation odds is Eastway Delivery Service Inc. (#323), of Houston. Unlike the other 18-wheeler dealers on the INC. Private 500 list, Eastway eschews the big tractor trailers and long runs, confining itself to the commercial zone of Houston. The company can deliver loads (from five ounces to 40,000 pounds) in 1 hour, 24 hours a day, and it has marketed its services aggressively. It has already spun off two subsidiaries: Westway Delivery Service Inc. and Midway Courier Service Inc.

"People say we do things differently," observes president John R. Oren. "I say we do things *right*."—*C.W.*



To build a construction-linked business today outside of the Southwest calls for something that cuts costs or fills a recession-related niche.

From 1978 to 1981 the construction industry splintered. Industry sales, adjusted for inflation, fell 14%, but not evenly everywhere. Builders in places like Tucson did just fine. It took something special, however, to build a construction-related company situated outside of the booming Southwest.

Many of the construction-related businesses on this year's INC. Private 500 got there by selling a product or service that cuts customers' costs, cuts the company's own selling costs, or fills a recession-related niche. Some, like D. C. Taylor Co. (#452), did all three. Taylor, a single-ply roofing installer, claims its 1982 sales will climb to four times last year's level.

Taylor, headquartered in Cedar Rapids, Iowa, and a competitor, Northwest Inc. (#301), in Wichita, Kans., both made the INC. Private 500 by virtue of foresight exercised six or seven years ago. They decided to abandon the conventional flat-roof covering—built-up layers of asphalt and felt—and to concentrate instead on installing a new, single-ply roofing material, some of which is imported from Europe. The cost of asphalt has gone out of sight. And, as interest rates have climbed, so has the cost of financing the capital equipment required to install the hot-asphalt roof. Subsequently, the single-ply roof has become cheaper compared with the built-up roof. "A conventional roofer might have $175,000 in equipment tied up on one job," says Bill Taylor, president of D. C. Taylor. "We can spread that same $175,000 over six or seven jobs and get a lot more production."

Also, both companies concentrate on replacement roofs, rather than new construction. "That gives us an inverse relationship with hard times," says Douglas Seidler, president of Northwest, whose major problem seems to be guarding against too-rapid growth. "I could double the size of this company in 12 months," he says, "but I like to take the time to digest growth. I'm not growing for growth's sake, I'm growing to make money."

Keith Swinehart Sr.'s problem is similar. He doesn't want the recession to end too soon, not until he has enough capacity to meet a higher demand for the plumbing pipe made by Vanguard Plastics Inc. (#163) in its McPherson, Kans., plant. "If the housing industry had taken off, say, last year," says Swinehart, "we probably wouldn't have been able to keep up, and we would have lost market share."

The polybutylene pipe and fittings Vanguard manufactures are flexible, unlike earlier plastic piping, and can withstand the pressures and hot water temperatures that domestic plumbing requires. It takes less time to install than copper piping, an appealing characteristic for the homeowner and housing developer. "It's one of the products that will drastically reduce housing costs," Swinehart predicts.

Cloverdale Equipment Co. (#438), of Oak Park, Mich., survives by keeping its costs under control. Cloverdale was hit with a double whammy in the recession: Not only is it a supplier of construction equipment, but the area it supplies is Detroit. Cloverdale's revenues are off 18% in 1982, after climbing 18% last year, but its market share is expanding as competitors drop out. Most of Cloverdale's revenues are from rentals, rather than sales, of construction equipment, and contractors prefer to rent in uncertain times. Furthermore, Cloverdale isn't spending a fortune on interest to finance new equipment. "We're able to generate revenues from a highly depreciated rental fleet," says president Thomas Moilanen, "which puts us in a position to weather this storm."

Richard Lebo, president of Remco Inc. (#263), of Mechanicsburg, Pa., prefers to let supermarkets in the Pennsylvania-Maryland area buy their major refrigeration equipment direct from the manufacturers, rather than from him. "If they buy direct and it doesn't work, we get paid to fix it," he says. Despite recession and high interest rates, Lebo expects Remco's sales to climb by more than 25% this year because he doesn't have to finance a product inventory and because refrigeration equipment requires servicing and repair, recession or no.

Similar reasons keep Superior Industries of Nebraska Inc. (#391), in Omaha, growing. "Look at supermarkets today," says chief executive officer Charles Myers. "If they had 100 feet of freezer cabinets 10 years ago, they have 300 feet now, and all that frozen food requires refrigeration at every stage of its processing and distribution." Superior Industries designs and builds cold-storage facilities, some of which it operates itself. "The only thing that keeps us from tripling our business next year," Myers complains, "is a lack of qualified people."

When bad times come, the lawyers always do well, and "we're similar to a large law firm," says Irvin E. Richter, president and CEO of Hill International Inc. (#19) Richter is a lawyer, but the more than 130 people the company employs in Willingboro, N.J., are engineers, architects, accountants, schedulers, and other construction

specialists, who can help sort out who owes how much to whom if disputes arise in a major construction project. "What used to be a dedication ceremony at the end of a project all too often now becomes confrontation in a court," Richter says, attributing tighter bids to the recession and unexpected cost increases to inflation. Hill International is also called in by public utility companies that are canceling partially constructed nuclear power generating plants. Those cancellations, Richter says, frequently involve settling 100 to 400 separate contracts.

Even a mainstream construction company can grow today outside the boom areas of the country. It just takes more work and more imagination. Consider Construction Management Inc. (#469) of Knoxville, Tenn. "We sat down two or three years before the World's Fair and tried to think what that might mean to us," says Colby Reeves, vice-president of CMI. "The plans we made," he adds modestly, "happened to work out."

CMI did about half the construction work at the fair site, by Reeves's estimate, and that experience led the fast-growing building company to create a separate marketing effort for the 1984 fair to be held in New Orleans. It expects not only to design and build exhibit pavilions for sponsoring companies, it also wants to operate the pavilions, hire the staff, create the displays, and dismantle the whole thing when the fair ends. "We've become the World's Fair experts," Reeves brags.—*T.R.*

If a retailer is small and maneuverable, it still has a chance. The most successful tactics carefully tailor sales efforts, such as mail order and service, to those most likely to buy.

Retailing went into a nose dive in 1980 and hasn't pulled out yet. Corrected for inflation, dollar volume in the retail industry this year will probably fall 3.5% from its 1979 peak. Some of the giants are already in trouble—F. W. Woolworth Co.'s Woolco, for example, or KDT Industries Inc.'s King's Department Stores. But if a retailer is small and maneuverable, it still may soar.

The 42 high-flying retailers on this year's INC. Private 500 use various stunts. One of them, mail order, lets a seller direct his efforts to people most likely to buy.

Early Winters Ltd. (#96), based in Seattle, operates two small flagship stores, but about 94% of its sales come from the catalogs it mails to a targeted market of outdoor enthusiasts. They buy jackets made of bunting, T-shirts of Shanghai silk, and brass candle lanterns—as well as such prosaic items as tents, parkas, and sleeping bags. For most products in its catalog, Early Winters is the sole source, according to Bill Nicolai, company president.

Jerry Greenberg, of Finals Racing Swimsuits Ltd. (#55), also targets his selling to a willing market, but he sells on price. Greenberg figured he could make and sell through a catalog a racing swimsuit that would beat out the then top-selling Speedo brand. His company has captured close to 65% of the competitive swimsuit market in six years with a mail-order suit that costs about half the store price of a Speedo suit. Finals projects a serious image. "People in our catalogs have never smiled," Greenberg says.

Greenberg's company grows by selling to people who know exactly what they want. On the other hand, Joe Armentrout, of Crazy Joe's Inc. (#365), headquartered in Kannapolis, N.C., concentrates on those who don't, which is most of us.

Auto parts stores intimidate the average mechanical illiterate. The counter clerks call all the blue-jeaned, T-shirted customers by their first names, and you don't even know the name of what you're there to buy, much less whether it's the "hemi" or OHC version. Welcome to Crazy Joe's. Three company-owned and two franchised Crazy Joe's are laid out like supermarkets. Telephones on the shelves and clerks roaming the aisles help customers find what they need more easily.

Joe Armentrout, the 38-year-old president, has finessed the competition by carefully courting the do-it-yourselfer. Stores are open from 8 a.m. to midnight; after 9 p.m. a single employee dispenses parts from a drive-in window. Each store keeps a library of repair manuals, a tool-rental service, and videotape lessons on such subjects as changing headlights and adjusting emission controls. Furthermore, half the staff is female. "We're able to attract many lady do-it-yourselfers for the first time," says Armentrout, who also owns a string of muffler shops and a warehouse operation.

When Israeli-born Rivka Seltzer founded Aloe Charm Inc. (#284) in 1975, she chose to sell her skin-care products and cosmetics through the party plan, another way to target selling efforts to a willing market. Friends of company-trained cosmetic "consultants" host home gatherings where skin-care and makeup tips are dispensed and orders are placed. The consultant pockets a minimum 25% commission on sales, which average $200 per party, "the highest in the industry," claims Seltzer. The number of consultants has grown from 6 to more than 8,000 in 33 states, partly, says Seltzer, because Aloe Charm handles all shipments and billing and requires nothing more than a $15 registration fee for its salespeople.

Throwing a party is about the only thing Dan Fattaleh hasn't done to sell his stained-glass supplies—300 types of stained glass, as well as tools, books, and patterns. Fattaleh's company, Delphi Glass Corp. (#78), sells through five retail stores, a franchise operation, and a mail-order catalog. It wholesales to studios and hobby stores.

Fattaleh carved out his niche in 1972 when, as an instructor in stained-glass creation, he couldn't get supplies. He has tried to fill that market. He has also tried to make it grow by starting people in stained glass as a hobby. This year, about 1,500 people will attend classes in Delphi Stained Glass Centers. And Fatteleh helps instructors start classes in community colleges and adult education programs around the country. "After someone takes a class, he's hooked," Fatteleh says.

A company can keep its feet dry just by having the right product in the right place. Three of the four furniture dealers on this year's INC. Private 500 sell waterbeds in the West and Southwest.—*A.S.*

This section was researched and written by INC. *staff members Craig Waters (trucking), Tom Richman (construction), and Abby Solomon (retailing).*

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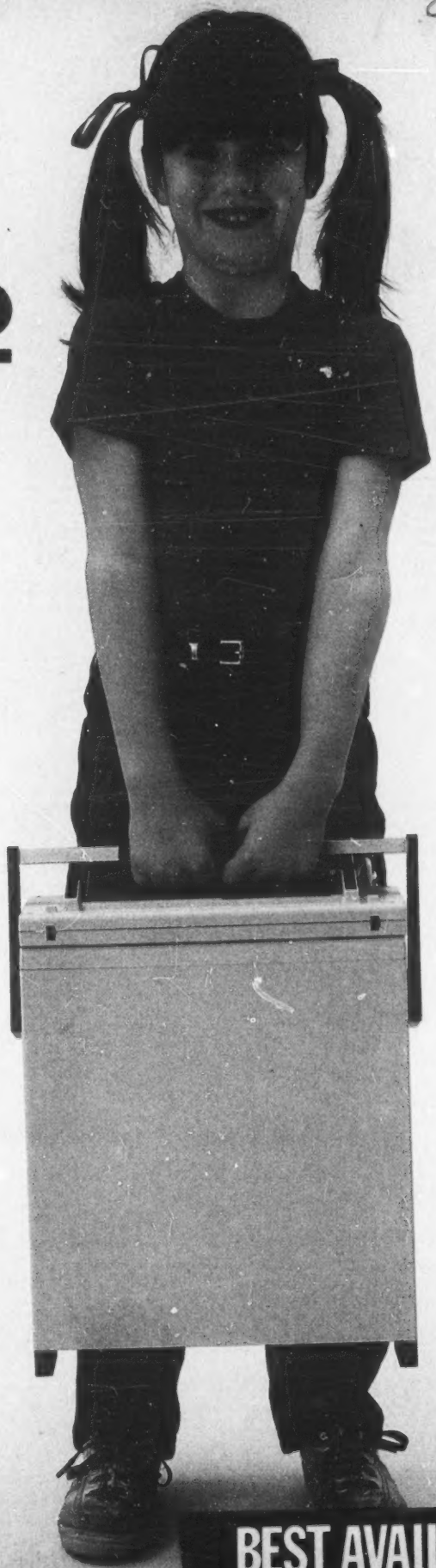

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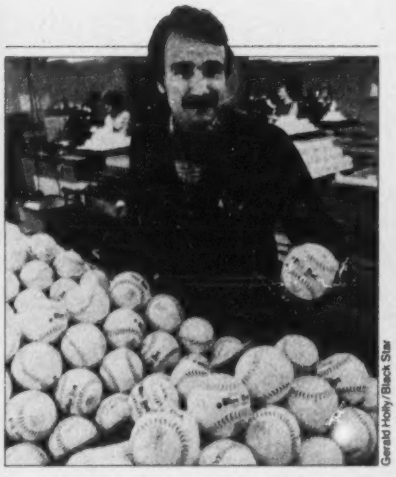

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Cover photo
Michael Germer

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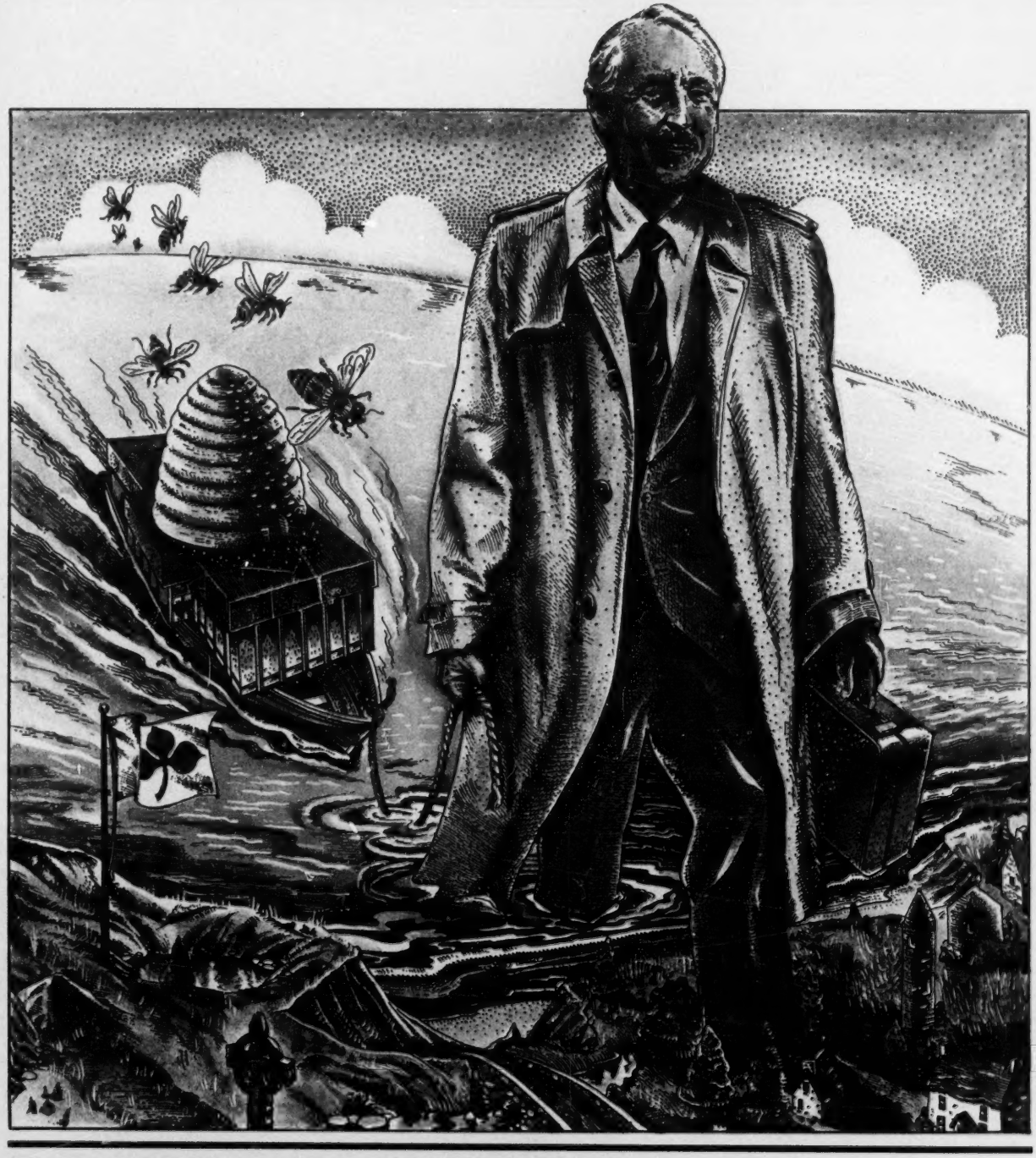

Illustration by Hugel Leyshmark

FOREIGN AFFAIRS

"It was the best of times, it was the worst of times," Charles Dickens wrote about the period of the French Revolution, and a number of U.S. companies considering moves to England, France, Ireland, or other Common Market countries are echoing that thought today. All of the economic indicators herald the worst of times—the United States is struggling with a recession, few plants are operating at capacity—but the radio and newspaper ads by foreign development agencies argue differently.

The truth is, it is both: For a company with a decent-size and secure European market and with a management up to the rigorous demands, it is an "excellent" time to set up

By Craig R. Waters

overseas. A company can bolster lethargic domestic sales, capitalize on its European presence, and enjoy profit margins higher than those "made in U.S.A." For other companies, however, such a move might represent a multimillion-dollar mistake.

For the past 18 months, foreign industrial development agencies and their public relations firms and advertising people have been frantically extolling various Common Market countries for U.S. companies. Armed with brochures and background reports on the target company, and proffering tax incentives, capital grants, research assistance, and a host of other inducements, they have set businesspeople salivating, from New York to San Francisco. But the mouth-watering packages are symptomatic of economic distress: Western Europe has languished since the mid-1970s, unemployment has climbed to 11.7 million, and U.S. investment has fallen.

From 1978 to 1980, the amount of U.S. dollars invested abroad rose by an average of 15.1% a year, but in 1981 the increase was less than half that size—5.5%—and 1982 seemed equally bleak. "Countries are doing whatever they can to alleviate the situation," says Jeffrey Lins, deputy director of the Office of Trade and Investment Analysis of the U.S. Department of Commerce, "and getting foreign investment seems the most popular solution." Small, fast-growth companies, with their promise of more employment opportunities, are the logical target.

"The competition is heating up—there's no doubt," says Bonnie Whyte, public affairs director of the International Trade Administration at Commerce, noting that the Republic of Ireland, France, West Germany, and the United Kingdom are among those stoking the coals.

"You've got people struggling to get a larger share of a diminishing pie," admits David O'Sullivan, director of public relations for the Industrial Development Authority of Ireland (IDA Ireland), "and the classic response to that sort of dilemma is to put more dollars into your marketing effort, which means that we're all in the ring fighting it out."

Generally, he says, the agencies are competing for smaller companies that have demonstrated strong growth despite the economic downturn (No one is hustling U.S. Steel, for example.). "We're constantly talking to INC. 100 companies," notes O'Sullivan.

The result is what one site-location consultant calls a "buyer's market" for companies considering a move into the European Economic Community (EEC). "If they know that's what they want to do, then this is an excellent time," he explains. "They can nearly name their own price." The head of one high-tech company reports that he was courted by three countries simultaneously, while another chief executive officer remarks that IDA Ireland seemed to know more about his business than he did. And, on occasion, heads-on bidding contests develop. It is not a situation that agencies encourage.

"We know what the competition is offering," says O'Sullivan succinctly.

Each country has its own objectives and style. Ireland has pursued a diversified but essentially high-tech base, with a professional approach that owes much, nonetheless, to the country's charm and blarney. It courts electronics, engineering (automotive and aerospace), and health care, in that order, touting its commitment to industrial development, political stability, and people. "What we're really selling is a country," says O'Sullivan.

Scotland envisions itself as the EEC's future high-tech center, and it has committed itself to a long-range program of technological training to court research and development and manufacturing facilities. It boasts eight universities and 67 technical colleges. The targets: microelectronics, computer-aided engineering, factory automation, and biotechnology.

France, laboring under the impact of the Mitterrand government's nationalization of several industries (the more notable victims include Honeywell and ITT) and a reputation as a tough place to do business, is nevertheless charming aerospace and telecommunications businesses. "We were told it was impossible to do business with the French government," says one supporter, Sheldon Weinig, president of Materials Research Corp., who put a plant in Toulouse in the late '70s. "I must say that we found it only almost impossible."

But, in general, all of the headhunters are pursuing technology's cutting edge: West Berlin's primary industrial prospects of electronics, electrical components, pharmaceuticals, medical equipment, precision instruments, and communications equipment make up, in fact, the EEC's shopping list.

The register of conquests is impressive. Ireland: Apple, Atari, Digital Equipment, North Star Computers, CPT, Floating Point Systems. Germany: IBM, NCR, Digital Equipment, United Technologies, Instrumentation Laboratory, Bickley Furnaces. Scotland: Borg-Warner, Burroughs, National Semiconductor, Ocean Systems, Burr-Brown Research, Joy Manufacturing. The facilities range in size from a 12-employee shop in Paris that makes custom hearing aids to huge Ford Motor factories.

Ireland is generally regarded as the leader in the race. By its own estimate, it captures 70% of the discretionary mobile industrial investment. A spokesman for Delco-Remy, which recently located a plant in France, notes that "if incentives were the only criteria, everyone would go to Ireland." But the results are mixed and open to wide interpretation. Northern Ireland and Scotland have mounted impressive campaigns, while, in a recent survey of 65 manufacturing companies with sales of $50 million to $5 billion, West Germany was rated most attractive. Site-location specialists caution, however, against thumbnail critiques. "It's very dangerous to generalize," warns L. Clinton Hoch, executive vice-president of Fantus Co. "Each project has to be considered on a case-by-case basis."

Goals may vary significantly, but the creature comforts sought by companies are relatively constant. A study by Booz-Allen & Hamilton Inc. found that political and economic stability was crucial, followed, in order of importance, by considerations of labor cost, labor productivity, and labor organization, with incentives nearly at the end of the list. Another report put economic stability in the No. 1 spot but also showed that repatriation of profits, proximity to markets, and size of market were primary concerns.

Sifting through the statistics (the cost per square foot of manufacturing space in Germany compared with France, and the differing values of grants in urban and rural areas of Wales) and assessing the intangibles (What happens if the Conservative Party is ousted in England?) are difficult exercises. A small company may enlist the aid of consultants or of risk analysts (Frost & Sullivan Inc., of New York, issues what amounts to a report card on 70 countries—Ireland gets a B+ on financial risk), but the process is always demanding. The opportunities and rewards make it worth contemplating. The incentives have never been higher, the dollar is strong in Europe, making it a better time to build there, and growing protectionism favors companies with a local presence. "Eventually, in order to do business in Europe, you may *have* to be there," observes Hoch.

And the rewards? The principal one is the EEC itself—a market with 270 million people and discretionary income equal to that in the United States.

"If your business fundamentals are good, and you have solid prospects, then I'd say go ahead," sums up Alexander R. Lehmann, president of A. R. Lehmann & Co., a consulting firm with overseas expertise.

Although it fully appreciated the difficulty and risks, Beehive International, a small computer-terminal and peripherals

The Common Market countries beckon to U.S. business. If a company can meet the rigors of setting up abroad, many inducements exist for doing so—among them, a skilled work force, new markets, and assistance with taxes.

manufacturer (1982 sales, $39 million), decided to take the chance. Last March, Beehive Ireland Ltd. opened a $4.1 million plant in the Republic of Ireland.

Now, as far as Beehive is concerned, its "Tale of Two Cities"—the story of a Salt Lake City company building a plant in a cow pasture in the small town of Fermoy, Ireland (population, 4,000)—is an unqualified success. "Having a presence there is a very definite advantage," says Warren B. Clifford, president, noting that none of the company's American competitors has yet established a beachhead. When the European economy begins to recover, Clifford figures that Beehive will be way out ahead.

Founded in 1968 by Clifford and two engineers, Beehive began buzzing in medical electronics but soon moved to the more lucrative field of computer video display terminals, mushrooming from an initial investment of $12,000 to $33 million in sales by 1980, primarily to the OEM market. Customers include Harris, Shared Medical, Prime Computer, and, overseas, SAGEM (France) and Scandia Metric (Sweden). "We're one of the granddaddies in this field," says Clifford. The company went public in 1970 (Clifford, with 8% of the stock, remains the largest single shareholder) and, in 1972, began marketing its terminals abroad.

"There were a lot of false starts and lessons to learn along the way," Clifford recalls with a grimace. The company continued to manufacture in Utah, used foreign distributors, set up a sales and service office in Amsterdam, and, by the late '70s, was doing about 35% of its sales overseas. By 1979, however, it had become obvious that what had sufficed in the past wouldn't succeed in the future.

"We realized that, in order to deal with the increasingly nationalistic attitudes of the European community, and also to bring the manufacturing closer to the marketplace, we'd have to set up a European company," he explains. "Growing protectionism—even within the EEC—put a U.S. company at a distinct disadvantage. I'd spent a fair amount of time in Europe and had seen the evidence accumulating.

"That was when we began turning over the rocks."

Clifford and Richard P. Beck, then chief financial officer, assumed major responsibility for the project. Neither had any plant-location expertise, but they felt that the final decision would be a financial one, and therefore one they should make. "We gathered as much economic data as we could," says Beck, "and researched the standard criteria—location, transportation, size of the labor force, and communications."

It was only after the initial data could be evaluated that Beehive approached the development agencies. "You have to have your act pretty well together before you go to them," explains Clifford, "or you won't know what the hell you're getting into."

Beehive had already had some contact with IDA Ireland—"We'd been looking at them for quite a while," says Frank B. J. Ryan, vice-president of IDA's West Coast office—but it wasn't blind to the allure of other countries. Beehive took a long, hard look at several, including Scotland, the UK, Italy, Barbados, and Puerto Rico.

"Beck and I attended a four-day seminar in Dublin sponsored by Chase Manhattan and the IDA," Clifford recalls. While there, they met with people in business, banking, and government and toured the plants of U.S. companies already operating there, among them Centronics, General Electric, and Measurex. Clifford, who had never been to Ireland before, came away less than enthusiastic—the country seemed poor, the climate wearisomely wet, the industry substandard, and the people overly defensive.

"There has been an attitude problem over there—an us versus them attitude—that, frankly, I think is a holdover of British dominance," he says. "Their only protection has been to think of companies as a *them*. . . . That's why the banks go out on strike and the telephone system is so poor."

Clifford also encountered what he calls "the blarney factor," which sometimes involves an avoidance of unpleasant facts. "Every time I asked about their inflation rate, they absolutely gagged; I couldn't get them to discuss it in realistic terms." (Until recently it stood at about 17%.)

Clifford rated the seminar slightly better than fair.

First impressions notwithstanding, the search eventually zeroed in on Ireland and Scotland. Beehive liked the transportation, congenial agencies, and potential for profitability that it found in the Republic, and it was not satisfied with Scotland's communications and location. But, in the final analysis, "it became a matter of simple mathematics," according to Clifford. "Frankly," he says, "it resolved into incentives and taxes."

After lengthy and hard-nosed negotiations, Ireland offered the company an outright grant covering 40% of the cost of building and equipping the new plant, a separate grant to cover employee training expenses, and tax-free operation until 1990, with a maximum corporate tax thereafter of 10% through the year 2000. It didn't request an equity position or impose local partner or local content restric-

THE TROPICAL TAX PARADISE

Beehive's new manufacturing facility in the Republic of Ireland wouldn't be nearly as attractive an investment if it weren't for Beehive International Ltd.—the Cayman Islands corporation that parented the plant. "It would have been much less appealing," says president Warren B. Clifford, "if we hadn't gone to the time and expense of pairing the stock."

The relatively arcane process of stock pairing makes it possible to avoid paying U.S. corporate taxes of about 50% on profits from the offshore operation.

Half a dozen U.S. corporations—among them, Sea Containers Inc., of New York City (ship and container leasing); Ralph M. Parsons Co., Pasadena, Calif. (construction); and L.E. Meyers Co., Chicago (electrical construction)—are taking advantage of the tactic.

"Essentially," explains Carl Lee, Beehive's audit manager at Arthur Andersen, "if five or fewer U.S. shareholders own 50% or more of the stock of a foreign company, then it may be considered a U.S. corporation and is taxable." In the case of Beehive International Ltd., however, there are some 1,800 stockholders, none of whom owns more than 8%. Which means no tax.

Beehive's approach was typical: It set up a separate corporation in a tax-free nation, then issued stock on a share-for-share basis as a dividend to Beehive International shareholders. Because the stock had no value at the time (the Irish plant had yet to be built), the dividend wasn't taxable to shareholders. The stock of the two sister companies now trade in tandem; for each share of Beehive International issued and outstanding, there is an identical share of Beehive International Ltd. (The stock, in fact, is printed on opposite sides of the same certificate.)

BI and BI Ltd. share the same list of stockholders and three officers (Clifford is president and chief executive officer of both), but they are otherwise separate entities, both legally and operationally, an important point in the eyes of the Internal Revenue Service, which might otherwise challenge the paired status.

As a result of their separateness, BI Ltd. has virtually eliminated the corporate income tax: It enjoys a tax vacation in Ireland (through 1990), pays nothing in the Cayman Islands, and avoids the U.S. corporate income tax entirely. Only the dividends paid to shareholders are taxable as personal income. Some companies have found that the "paired advantage" can help give them a profit margin nearly twice as high overseas.

The obvious question is why more U.S. companies don't make use of pairing. "I guess it's just not widely publicized," says Lee.

INVESTMENT OPPORTUNITIES IN THE COMMON MARKET

Country	Loans/grants	Tax incentives	Development Areas	Industries targeted
FRANCE	Small Business Grant, locally funded and administered for small and medium-size cos., generally with ceiling of 20,000 francs (about $3,000) per job, up to 30th job. Regional Development Grants, nationally funded in Development Areas, for operations creating 20 jobs or more, with ceiling of 50,000 francs ($8,300) per job. Grants cover up to 25% of fixed-asset investment.	Partial or total exemption from local business tax for first 5 years.	Northern tip; Lorraine area; west line from Cherbourg to Marseilles.	None
REPUBLIC OF IRELAND	Capital grants for up to 60% of fixed-asset investment. Training grants for 100% of salaries and travel during training. Negotiable loan guarantees, interest and rent subsidies, and reduced-interest leasing rates available from government.	All mfg. industries pay no more than 10%/yr. up to year 2000; 100% tax writeoff against tax liabilities in first year.	Western Ireland offers highest percentage for capital grants.	Electronics, health care, engineered and consumer products.
UNITED KINGDOM	Building, machinery, and equipment grants for up to 50% of investment (Northern Ireland); 22% (Special Development Areas); 15% (Development Areas). Start-up grants in Northern Ireland providing revenue for build-up period, individually negotiated according to total capital requirements; similar assistance available in Special Development Areas & Development Areas on discretionary basis according to location, employment, and capital requirements. Gov't loans for total capital costs available in N. Ireland and Development Areas. Interest relief available in N. Ireland for 3-7 yrs. at commercial rate, followed by 4 yrs. at 3%/yr. Training grants in N. Ireland from $32-$64/week depending on age of employee; 40% of basic wages and training costs in Development Areas. R&D grants of 40%-50% in N. Ireland, up to $400,000; up to 33 1/3% of costs from $40,000 to $8 million in Development Areas. Help for transferred key workers, including free fare, lodging allowances, and settling-in grants, N. Ireland and Development Areas.	79% of construction costs of industrial bldgs. and 100% of capital expenditure on equip., including total value of gov't grant, may be written off in first yr.; balance written off at 4%/yr. Local tax lowered 75% to 100%, N. Ireland; 50%, Scotland; 100%, Enterprise Zones.	Special Dev. Areas (areas of special need in Great Britain); Dev. Areas (W. Scotland, S. Wales, S.W. England); Intermed. Areas (parts of N. and S. England and N. Wales).	None
W. GERMANY	Available through gov'ts of the 3 city-states and 8 provinces.	Available through gov'ts of the 3 city-states and 8 provinces.	Land along E. German border and Saarland (French border), coal, iron-mining area.	Nonpolluting industries
W. BERLIN	Tax-free investment grants of 10%-40% (avg. 25%) of total capital investment. Accel. rate of depreciation (75% in first yr.). Fixed long-term credit rates of 5%-7%/yr., up to 12 yrs. "Turnover bonus"—cash bonus as high as 10% of value added to labor and materials purchased in West Berlin.	Corporate income tax reduced by 22.5%; personal income tax reduced by 30% (compared with W. Germany).	None	High tech, machine tools, plastics, pharmaceuticals, metals fabrication

tions (which is common in some countries, such as France). Beehive Ltd.'s only responsibility was to keep the plant open for 10 years (if it doesn't, then it must repay a portion of the capital grant). In return for its Gaelic generosity, Ireland will eventually get 240 jobs.

The tax situation was made even sweeter by Beehive's decision not to operate its Irish facility as a wholly owned subsidiary. Instead, it set up a separate corporation in the Cayman Islands—Beehive International Ltd.—with which it paired its stock, to serve as the parent. "It permits us to repatriate the profits from Ireland to a tax-free nation," Clifford explains. "You're able to pay dividends on those profits without having the U.S. corporate tax applied to them. We're one of six companies doing this," he notes with genuine pride.

Finding a site was simpler than settling on terms (hammered out in three meetings with the IDA in Dublin—"I put my iron pants on for those," says Clifford). Armed only with a road map and a list of likely spots, Clifford climbed into a car "and drove and drove and drove. At the time, I was looking for a place that was dry." Fermoy, nestled in rolling hills north of Cork, proved a fortuitous choice.

An agricultural community with only one other manufacturer (German pencil-maker A. W. Faber-Castell), Fermoy was situated conveniently close to Cork (population, 140,000), its airport (for executives), and quays (for terminal shipments). It had good communications and a labor force that was eager, affable, and big enough to meet the needs of Beehive Ltd.

Beehive and IDA Ireland signed an agreement on December 12, 1980, 18 months after Beck and Clifford had first set foot on the Emerald Isle. The IDA not only provided attractive inducements, it also sold the 9.2-acre site to Beehive and contracted to build the plant to the company's specifications. "They were very professional," says Clifford.

The factory, a "world-class facility" that relies heavily on automation, opened last March. Unfortunately, in the interim, the American and European economies and Beehive's market had all gone to pieces.

"The recession had caused us to have some second thoughts," admits Beck. "But we didn't think it was going to be as deep, or as long, as it has been. In the past, we'd been fairly immune." What Beehive hadn't anticipated, however, was that Kienzle Apparate GmbH, a German computer manufacturer that had accounted for 50% of its European sales (taking 450 units per month), would back out two months before Fermoy came on line. "They'd been a customer for about seven

The competition to attract U.S. operations to Europe is getting hotter, with Ireland generally considered to be the leader in the race. By its own estimate, it captures 70% of the discretionary mobile industrial investment.

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Development Agency	GNP (bil.)	Pop. (mil.)	Unemploy. rate	Avg. yrly. income	Min. wage	Social charges (% of wages)	Strike days per year, per 1,000 workers	Average ed. of work force	Avg. hourly wage	# univ./tech. colleges	# of U.S. cos.	Average # of employees at U.S. cos.
French Industrial Development Agency and regional development organizations in France assist in negotiating loans and grants.	$349	54.1	9.0%	$ 6,660	$500/ month	35%–50%	174	At least 10 yrs.	$3.78	71	499	540
Industrial Development Authority of Ireland arranges all grants and loans, offers legal advice.	$ 16.8	3.4	13.4%	$14,608	None	29%	596	12.4 yrs.	$5.75	16	360	96
Eng.: Dept. of Industry. Industrial development agencies in other parts of U.K. negotiate loans and grants	$400	55.7	14.0%	$15,800	None	25%	1,170	At least 10 yrs.	$5.28	610 (Gr. Brit.); 27 (N. Ire.)	2,000	N/A
Agency for each province, city-state.	$670	61.5	7.5%	N/A	N/A (tariffs are negotiated within labor unions)	50%-70%	11	10 yrs.	$5.83	41	850	N/A
Berlin Economic Development Corp.	$ 22	1.9	8.8%	$14,800 (males), $10,800 (females)	N/A (tariffs are negotiated within labor unions)	50%-70%	0	10 yrs.	$6.58 (male) $4.80 (female)	6	21	800

years," Beck says, "and, actually, we'd looked upon them as the base for the plant." But Kienzle was acquired by the Mannesmann AG, which decided that the company should produce its own terminals. Overnight, and without warning, Beehive lost half of its business.

"I began thinking about going into a new line of work when that happened," recalls Beck.

"The only thing we could do, other than find new customers, was to man the Irish facility less quickly than we'd planned," Beck notes. Ignoring the fact that the new 52,000-square-foot facility would operate as a money-loser for an indefinite period, Beehive opened on schedule but on a smaller scale than planned. The plant, which can toss off 6,000 terminals a month on a one-shift basis, now produces 500 (1,000 had been projected), using 55 employees (the plans had called for 100). The half-speed start sabotaged the plant's efficiency, playing havoc, in turn, with its absorption of overhead. "I don't think we're saving a dime by producing our stuff over there," complains Clifford, noting that labor (at about $5 an hour) costs about the same as in Salt Lake City, while the cost of energy runs a bit higher. "If we were running the same quantity as Salt Lake," adds Beck, looking toward the future, "our costs would be lower—it's purely a function of volume."

On the plus side, Beehive lists the capital grant, the training grant (worth $260,000 so far), lower transportation charges (down 7%), and the fact that it is now a part of the European community. The tax advantage has yet to be seen—"This year, it didn't represent a damn thing because we lost money," says Clifford. In fiscal 1982, ended September 30, Beehive Ltd., which reports its figures jointly with Beehive, pulled the paired corporations $760,000 into the red (pretax earnings were $6.9 million in 1981).

The least-likely benefit has been—surprisingly enough—the slow start. Explains Beck: "It gave us a chance to work out the bugs, train our people better, and develop our manufacturing and quality procedures—without the heavy demands of a monthly shipping schedule." He notes that the plant, which is managed by an Englishman, David Walsh, formerly of Bell & Howell, has run smoothly since it opened.

Having already weathered the worst, Beehive Ltd. seems safely headed for success. It started up *during* a recession, survived the loss of its largest customer, and, after only seven months of operation, was profitable. "We expect to be profitable in the third and fourth quarters of fiscal '83," observes Clifford, "significantly so in the fourth." The company has increased sales, targeted two or three "major" prospects (to take up the Kienzle slack), and, early this year, planned to add a new terminal to its product line. "We're going to be back at the $9 million level by the last half of this year," promises Beck.

Although he would have preferred Fermoy in less hazardous times, Clifford has no regrets about making the move: "It's already begun to accrue to the company's advantage," he says.

His advice to others following in his footsteps: "Take along some good thick sweaters." □

THE MAGAZINE FOR GROWING COMPANIES

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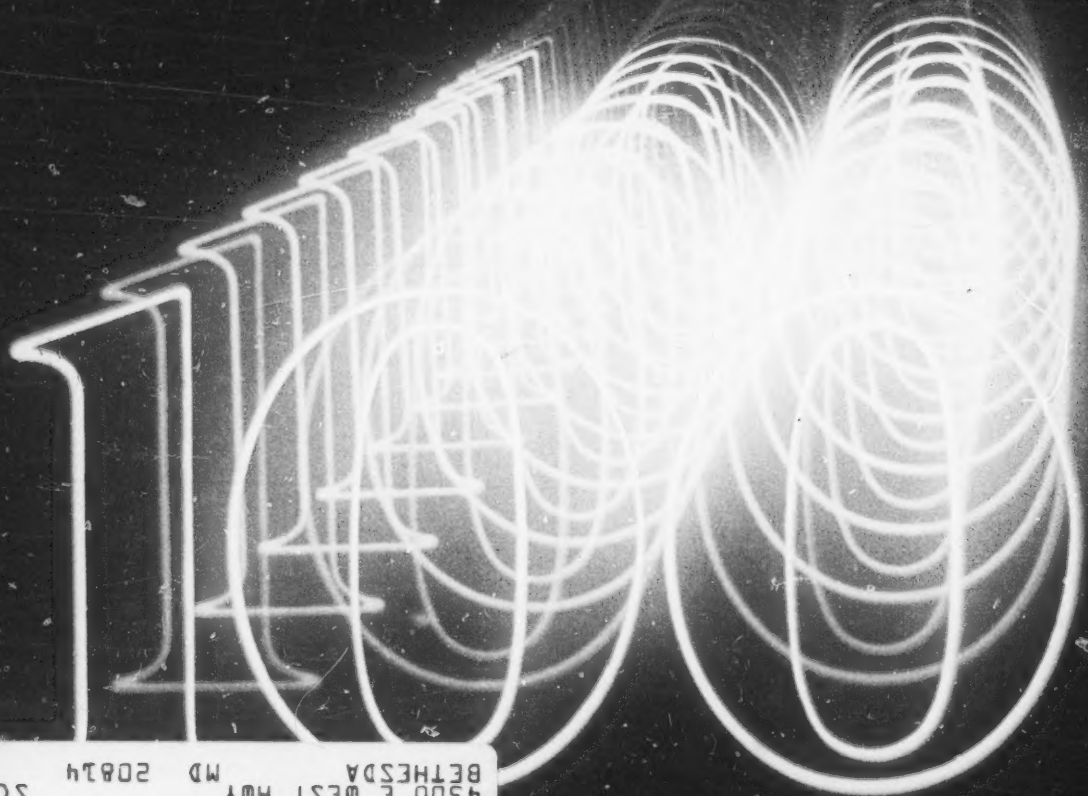
Inc.

THE INC. 100

1983's Fastest-Growing Small Public Companies



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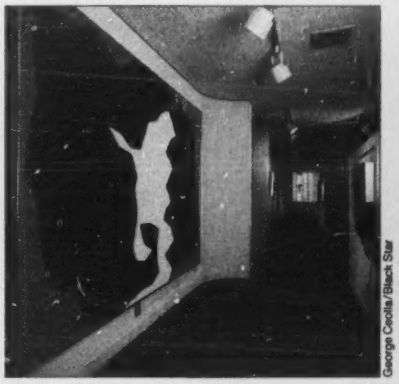

George Cecila/Black Star

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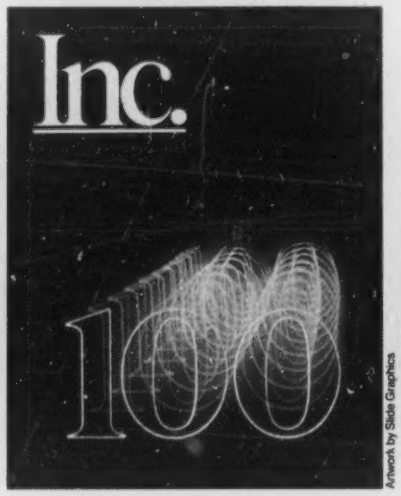

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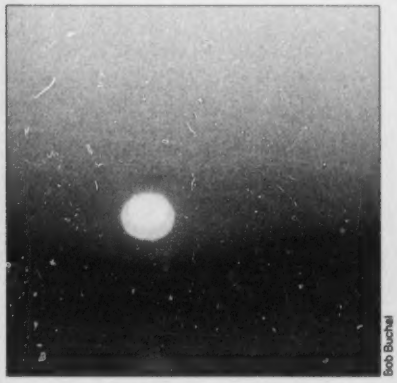

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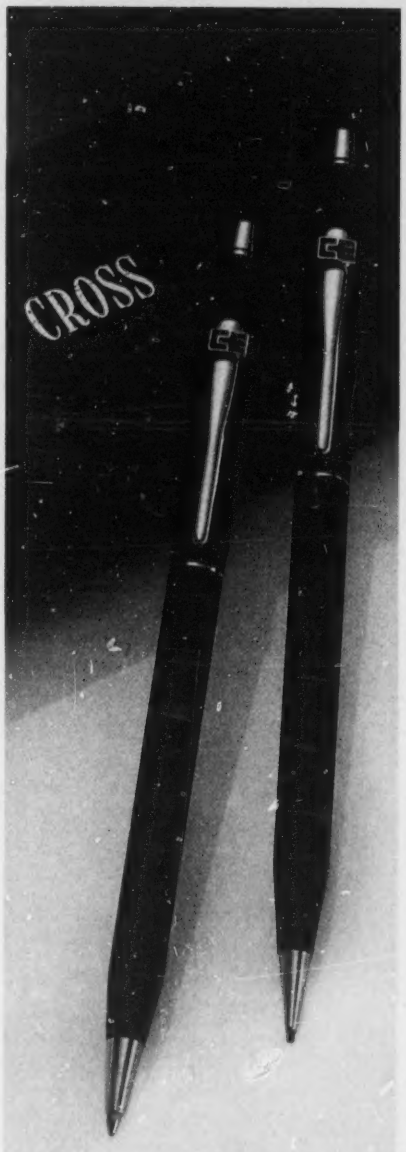

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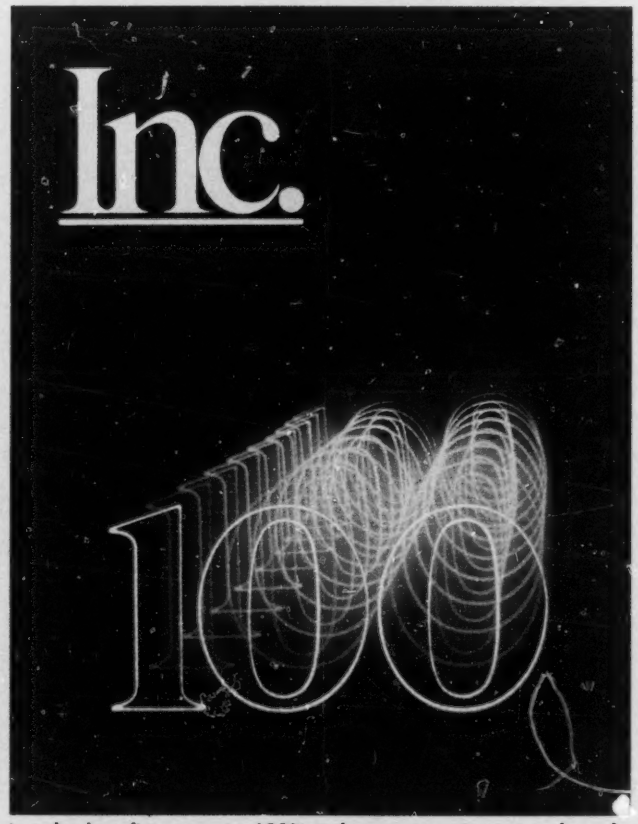
Cover Story

THE INC. 100

Surveying America's fastest-growing small public companies.



Some facts about the INC. 100 never change. Year after year our annual ranking of the fastest-growing publicly held smaller companies in the United States is dominated by young, healthy, innovative, highly productive concerns, and 1983 is no exception. On this latest list are 53 companies formed since 1973 and 36 corporations with sales of $100,000 or more per employee.

Manufacturers continue to outnumber service, mining, and drilling companies. Computer, data processing, and software concerns still make up about a third of the ranking. Cray Research Inc. (#74) in Minneapolis and Tandem Computers Inc. (#46) in Cupertino, Calif., hold on to their status as the only five-year veterans of the list.

Heading the 1983 INC. 100, though, is a new name, BRAE Corp. Founded in 1977, this San Francisco–based company owns, leases, and manages transportation equipment, principally rail cars. Its growth is nothing short of explosive—an 88,970% surge in sales during the last five years, a 193% increase from 1981 to 1982.

In second and third place are other names not on last year's list—Altos Computer Systems in San Jose, Calif., and Pizza Time Theatre in Sunnyvale, Calif. Altos, a six-year-old microcomputer manufacturer, ranked first last year on the INC. 500, our annual ranking of the fastest-growing privately held smaller corporations in the United States. It went public in November. Sales by Altos soared 33,871% in the 1978–82 base period and 138% from 1981 to 1982. Sales by Pizza Time Theatre (the company that made Chuck E. Cheese famous) multiplied 285 times in the past five years, a 28,430% increase.

Bringing up the tail of the 1983 INC. 100 are Xonics Inc. (#99), a manufacturer of medical imaging products headquartered in Des Plaines, Ill., and Intelligent Systems (#100), a 10-year-old, Atlanta-based maker of desktop microcomputers. Xonics' sales jumped from about $14 million in 1978 to nearly $87 million in 1982, a 504% increase. Intelligent Systems' revenues grew from $4 million in 1978 to $25 million in 1982, a sixfold increase.

Overall, 47 new names—Comair (#27), Plasma-Therm (#80), and Ryan's Family Steak Houses (#32), among them—and 53 old ones—including Alaska Diversified Resources (#88), Lexidata (#20), and North American Watch (#95)—appear on the 1983 INC. 100. One company takes its name from a saint, St. Jude Medical (#61) in St. Paul; another from a sinner, Godfather's Pizza (#44) of Omaha. One is named for a fruit, Apple Computer (#5) in Cupertino; another for a famous designer, Liz Claiborne (#84) in New York City.

On the list are 17 computer manufacturers, 11 energy producers, eight data processors, five restaurateurs, and four cable television systems. Corporations with interests in medical and health products and services occupy 20 spots, and data communication and word-processing companies hold 3. All together the INC. 100 companies employ 68,273 people (58,480 more than they did in 1978) and retain a healthy median of 9.6% of their sales as aftertax earnings. On a sour note, median sales are down slightly from $29 million last year to $27 million this year.

Revenues have shot up 1,189% since 1978. In the past year, the companies overall report a 61% gain, a figure best described as spectacular when compared to the anemic 2% increase mustered in 1982 by the country's 500 largest corporations. Most impressive are the INC. 100's computer manufacturers and food-service companies. Since 1978, sales by computer makers have multiplied an average of 42 times. Sales by food-service corporations are about 72 times the 1978 level.

The companies on the 1983 INC. 100 are also larger than their counterparts from past lists. For example, 30 of the corporations on 1983 list posted sales of $50 million or more, and 21 had

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revenues in excess of $75 million. Thirteen topped $100 million, and four were over the $200 million mark. Average sales jumped from $50 million for the 1982 INC. 100 to $53 million for our current group of companies.

And this year's INC. 100 companies trace their roots to a greater variety of places. They hail from 30 states, with one-fifth based in California. Other front-runner states are New York with 11 companies; Texas with 10; Minnesota with 7; Colorado and New Jersey with 5 each; Pennsylvania with 4; and Connecticut, Massachusetts, Ohio, and Oklahoma with 3 each.

On the average, the companies on the 1983 INC. 100 roster are less than 12 years old, which means that they are as young as the corporations on last year's list. Just six of the class of 1983—Seneca Oil (#48), Key Pharmaceuticals (#51), Victor Kellering (#67), Cable TV Industries (#98), International Game Technology (#87), and Matrix (#85)—were formed before 1960, and only nine are 20 years old or older.

Sixteen of the companies were incorporated in 1976 (more than in any other year on the list) and 12 in 1972. Eleven were formed in 1968 and an equal number in 1974 and 1977. Forty-three of the 1983 INC. 100 grew by acquisition; 57 companies did not.

Leading the 1983 INC. 100 in sales is Apple Computer. Its 1982 revenues topped $583 million, a figure that may put the company in the ranks of the *Fortune* 500. (Sixty-four of last year's *Fortune* 500 companies had revenues of $580 million or less.)

Other standard bearers of the INC. 100's sales list are Tandem Computers, with 1982 revenues of $312 million; BRAE, $251 million; and Reeves Communications (#45) in New York, $231 million. Rounding out the list are Gold C Enterprises (#49) of Denver (1982 revenues of $2 million) and Nelson Research & Development (#47) of Irvine, Calif. (1982 sales of $2 million).

Net income is up—from $345 million in 1981 to $463 million in 1982, compared to the 16% decline reported by the nation's 500 largest companies. The number of corporations reporting losses grew this year to 18% from 8%. Pengo Industries (#75), a Fort Worth–based oil field equipment manufacturer, suffered the most, closing its 1982 books with $83 million written in red. Others experiencing losses were Seneca Oil in Oklahoma City, $5 million in the red; Hadron (#81) in Vienna, Va., posting a $5 million loss; and Ferrofluidics (#93) in Nashua, N.H., $2 million in the red. Ventrex Laboratories (#91) in Portland, Maine, Energy Conversion Devices (#14) in Troy, Mich., and Movie Systems (#10) in Des Moines, all ended the year with losses of more than $1.5 million.

Among the profitable concerns on the 1983 INC. 100, Hadson Petroleum (#69) in Oklahoma City is on top, with reported income of 47% of sales. Following it on the list are Flare (#22) in Midland, Tex., and Intertec Data Systems (#38) in Columbus, S.C., with profits of 31% and 29%, respectively.

The 1983 INC. 100 companies with the most impressive productivity rates (measured by dividing total sales by the number of employees) are SPM Group (#35) in Englewood, Colo., North American Watch, and United States Health Care Systems (#39) in Willow Grove, Pa.

But most of the INC. 100 fared well in this category. For example, 20 corporations reported sales per employee of $100,000 or more. Only 16 were below $50,000 in sales per employee, and just 3

INC. 100 PROFILE

Number of companies by industry	
Manufacturing	51
Services	32
Mining (including oil and gas)	17
Total sales 1982 (million)	$5,330.0
Change (1978–82)	+1,177%
Change (1981–82)	+61%
Total net income (million)	$463.5
Change (1978–82)	+1,400%
Change (1981–82)	+34%
Median sales in 1982 (million)	$27.1
Median sales in 1978 (million)	$1.7
Compound average annual sales growth	
Total sales (1978–82)	+89.0%
Range (1982)	+56.5%–446.3%
Median (1982)	+86.8%
Net income as percent of sales	
Range	0.2%–47.3%
Median	9.6%
No. acquiring other companies (1978–82)	43
No. incorporated since 1973	53
Total no. of employees	
1982	68,273
1978	9,793
Change (1978–82)	+597%

LEADERS IN EMPLOYEE GROWTH

Company (Rank)	1978 empl.	1982 empl.	%age growth
Consul (17)	35	2,200	6,186
Apple Computer (5)	58	3,300	5,590
Healthdyne (24)	10	500	4,900
ISC Systems (4)	23	1,135	4,835
Altos Computer (2)	9	310	3,344
Lexidata (20)	13	445	3,323
Nutri/System (26)	100	3,300	3,200
Genentech (16)	17	440	2,488
BRAE (1)	28	668	2,286
BSN (82)	6	140	2,233

TOP 10 PERFORMERS: 1982 PRODUCTIVITY*

Company (INC. 100 rank)	Sales per employee
SPM Group (35)	$329,310
North American Watch (95)	306,230
U.S. Health Care Systems (39)	292,710
Cable TV Industries (98)	265,830
Liz Claiborne (84)	248,830
C3 (92)	200,730
Godfather's Pizza (44)	199,180
Apple Computer (5)	176,690
Alaska Diversified Resources (88)	165,350
Altos Computer Systems (2)	164,380

*Excludes capital-intensive energy developers and companies whose primary business is leasing or real estate

1982 SALES LEADERS ($000)

Company (INC. 100 Rank)	Sales
Apple Computer (5)	$583,061
Tandem Computers (46)	312,143
BRAE (1)	251,176
Reeves Communications (45)	231,149
Liz Claiborne (84)	165,722
Intergraph (77)	155,642
Pengo Industries (75)	150,664
Tandon (12)	150,490
CPT (83)	145,027
Dysan (68)	142,756

TOP 10 PERFORMERS: 1982 PROFITABILITY

Company (INC. 100 rank)	Net income as % of sales
Hadson Petroleum (69)	47.29
Flare (22)	31.45
Intertec Data Sys. (38)	28.83
Phoenix American (59)	25.56
C.P. Rehab (73)	19.06
Oxoco (53)	18.84
Electro-Biology (7)	18.75
Healthdyne (24)	18.31
Sykes Datatronics (66)	17.28
C3 (92)	17.20

WHERE THE INC. 100 COMPANIES ARE BASED

State	# of 1983 INC. 100 Cos.	# of 1982 INC. 100 Cos.
California	20	17
New York	11	15
Texas	10	15
Minnesota	7	7
Colorado	5	3
New Jersey	5	3
Pennsylvania	4	2
Massachusetts	3	1
Ohio	3	1
Oklahoma	3	4

fell in the $8,000-to-$20,000 sales range.

In employee growth, Consul (#17) in Eden Prairie, Minn., Apple Computer, and Healthdyne (#24) in Marietta, Ga., led the 1983 INC. 100. The number of people working for Consul soared from 35 in 1978 to 2,200 in 1982. In the same period, Apple Computer's employment jumped from 58 to 3,300. Healthdyne's roster of workers rose from 10 in 1978 to 500 in 1982. Others posting impressive growth in the number of employees are ISC Systems (#4) in Spokane, Wash., Altos Computer Systems, and Lexidata.

Manufacturers still outnumber service, mining, and drilling concerns in this year's fast-growth listing.

Absent from the 1983 INC. 100 are 49 companies whose names appeared on last year's list. The reasons these corporations failed to make the 1983 ranking vary. For example, Air Florida in Miami and Blocker Energy in Houston were disqualified because their 1981 sales exceeded those recorded for 1982. Sterling Oil in Tulsa was omitted because its sales growth dipped too low.

Among the also-rans this year were Kinder-Care Learning Centers, a franchisor of day-care centers, headquartered in Montgomery, Ala., and S.A.L. Cable Communications, a Melville, N.Y., supplier to the cable TV industry. Both reported sales growth of less than 500%, just below our cut-off point.

A third company missing from the 1983 INC. 100 is Convergent Technologies Inc., a producer of microprocessor-based and computer systems headquartered in Santa Clara, Calif. It posted a vigorous 31,321% gain in sales during the past three years, but its youth—the company was formed in 1979—makes it ineligible for inclusion.

Other companies too young for the 1983 INC. 100 are Emulex Corp., a designer, manufacturer, and marketer of computer peripherals, headquartered in Santa Ana, Calif., and The Ultimate Corp., based in Clark, N.J., which has interests in minicomputer hardware and software systems.

Data processing, computer, and software companies make up about one-third of the ranking once again.

From 1979 to 1982, Emulex and Ultimate recorded impressive sales hikes of 6,110% and 11,194%, respectively.

—Donna Sammons

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INC. 100 INDEX

Trading	Company (Rank)
OTC	ADAC Laboratories (90)
OTC	Alaska Diversified Resources (88)
OTC	Altos Computer Systems (2)
OTC	AM Cable TV Industries (60)
OTC	Apple Computer (5)
OTC	ASK Computer Systems (11)
OTC	Barton Valve (70)
OTC	Bio-Medical Sciences (6)
OTC	Biochem International (13)
OTC	BRAE (1)
OTC	BSN (82)
OTC	CACI (79)
NYSE	C3 (92)
OTC	CP Rehab (73)
OTC	CPT (83)
OTC	Cable TV Industries (98)
OTC	Cetus (43)
OTC	Chemical Investors (18)
OTC	Cipher Data Products (86)
OTC	Comair (27)
OTC	Compucorp (65)
OTC	Computer Associates Int'l. (94)
OTC	Consul (17)
NYSE	Cray Research (74)
OTC	Crime Control (19)
NYSE	Cullinet Software (97)
OTC	Data Switch (25)
OTC	Diagnostic/Retrieval Sys. (96)
OTC	Dietrich Resources (56)
OTC	Dysan (68)
OTC	Electro-Biology (7)
OTC	Energy Conversion Devices (14)
OTC	Ferrofluidics (93)
OTC	Flare (22)
OTC	Genentech (16)
OTC	Godfather's Pizza (44)
OTC	Gold C Enterprises (49)
OTC	Gulf Energy (50)
OTC	Hadron (81)
OTC	Hadson Petroleum (69)
ASE	Health Extension Services (63)
OTC	Healthdyne (24)
NYSE	Heritage Communications (37)
OTC	Immuno Nuclear (89)
OTC	Intelligent Systems (100)
OTC	Intergraph (77)
OTC	Int'l. Game Technology (87)
ASE	Intertec Data Systems (38)
OTC	ISC Systems (4)
OTC	Jefferson-Williams Energy (40)
ASE	Key Pharmaceuticals (51)
OTC	KLA Instruments (28)
OTC	Lexidata (20)
OTC	Liz Claiborne (84)
OTC	Lomak Petroleum (52)
OTC	LTX (36)
OTC	M.D.C. (42)
OTC	Machine Technology (55)
ASE	Matrix (85)
OTC	Medical Graphics (23)
OTC	Micom Systems (15)
OTC	Mid-America Petroleum (8)
OTC	Miller Tech. & Communic. (62)
ASE	Monument Energy (57)
OTC	Movie Systems (10)
NYSE	NBI (30)
OTC	Nelson Research & Develop. (47)
OTC	North American Watch (95)
OTC	Nuclear Pharmacy (64)
OTC	Nuclear Support Services (29)
OTC	Nugget Oil (33)
NYSE	Nutri/System (26)
OTC	Oxoco (53)
OTC	Oxygen Enrichment (21)
NYSE	Pengo Industries (75)
OTC	Phoenix American (59)
OTC	Pizza Time Theatre (3)
OTC	Plasma-Therm (80)
OTC	Quality Systems (54)
OTC	Reeves Communications (45)
OTC	Ryan's Family Steak Houses (32)
ASE	Scientific Leasing (78)
OTC	Sea Galley Stores (71)
OTC	Seneca Oil (48)
OTC	Service Fracturing (72)
OTC	Shopsmith (58)
OTC	SPM Group (35)
OTC	St. Jude Medical (61)
OTC	Swanton (41)
OTC	Sykes Datatronics (66)
OTC	Tandem Computers (46)
OTC	Tandon (12)
OTC	Teleco Oilfield Services (9)
OTC	Texas Energies (34)
OTC	Trans-Western Exploration (76)
OTC	United States Health Care Sys. (39)
OTC	Vector Graphic (31)
OTC	Ventrex Laboratories (91)
OTC	Victor Kellering (67)
OTC	Xonics (99)

OTC–Over-the-counter; ASE–American Stock Exchange; NYSE–New York Stock Exchange

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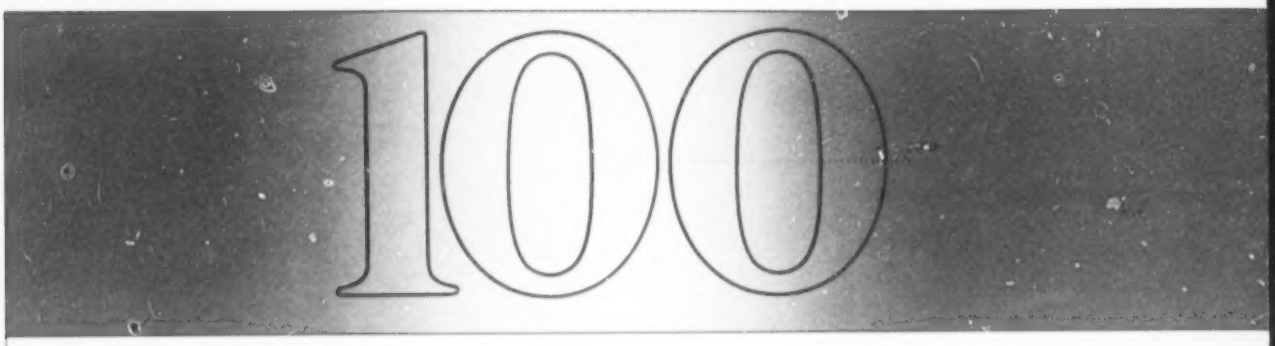

Rank '83	Rank '82	Company	Sales Growth (1978-82) Percent increase	Sales Growth (1978-82) Compound annual rate	Sales ($000) '82	Sales ($000) (rank)	Sales ($000) '78
1	□	**BRAE** (San Francisco)	88,970%	446%	$251,176	(3)	$ 282
2	□	**Altos Computer Systems** (San Jose)	33,871	329	50,957	(30)	150
3	□	**Pizza Time Theatre** (Sunnyvale, CA)	28,430	311	99,286	(14)	348
4	□	**ISC Systems** (Spokane)	8,850	208	63,273	(24)	707
5	1	**Apple Computer** (Cupertino, CA)	7,322	194	583,061	(1)	7,856
6	4	**Bio-Medical Sciences** (New York)	6,376	184	73,562[1]	(22)	1,136
7	2	**Electro-Biology** (Fairfield, NJ)	6,211	182	21,330	(58)	338
8	□	**Mid-America Petroleum** (Dallas)	5,983	179	12,896	(73)	212
9	□	**Teleco Oilfield Services** (Meriden, CT)	5,393	172	52,344[1]	(28)	953
10	□	**Movie Systems** (Des Moines)	5,138	169	11,732	(76)	224
11	8	**ASK Computer Systems** (Los Altos, CA)	4,755	164	22,769	(56)	469
12	13	**Tandon** (Chatsworth, CA)	4,594	162	150,490	(8)	3,206
13	□	**Biochem International** (Milwaukee)	4,447	160	5,775	(91)	127
14	□	**Energy Conversion Devices** (Troy, MI)	4,393	159	20,534	(59)	457
15	12	**Micom Systems** (Chatsworth, CA)	3,775	150	49,682	(31)	1,282
16	□	**Genentech** (San Francisco)	3,708	148	32,600	(47)	856
17	□	**Consul** (Eden Prairie, MN)	3,385	143	17,981	(67)	516
18	9	**Chemical Investors** (Indianapolis)	3,354	142	36,545[1]	(43)	1,058
19	□	**Crime Control** (Indianapolis)	3,180	139	22,500	(57)	686
20	17	**Lexidata** (Billerica, MA)	3,124	138	28,562	(48)	886
21	□	**Oxygen Enrichment** (Schenectady, NY)	3,093	138	3,576	(96)	112
22	3	**Flare** (Midland, TX)	2,860	133	8,791	(81)	297
23	□	**Medical Graphics** (St. Paul)	2,751	131	3,051	(98)	107
24	35	**Healthdyne** (Marietta, GA)	2,414	124	17,927	(68)	713
25	□	**Data Switch** (Norwalk, CT)	2,357	123	18,183	(64)	740
26	26	**Nutri/System** (Huntingdon Valley, PA)	1,960	113	124,648	(12)	6,050
27	□	**Comair** (Cincinnati)	1,889	111	10,620	(78)	534
28	□	**KLA Instruments** (Santa Clara, CA)	1,819	109	16,162	(71)	842
29	39	**Nuclear Support Services** (Hershey, PA)	1,704	106	18,043	(65)	1,000
30	20	**NBI** (Boulder, CO)	1,702	106	100,111	(13)	5,557
31	6	**Vector Graphic** (Thousand Oaks, CA)	1,682	105	36,223	(44)	2,033
32	□	**Ryan's Family Steak Houses** (Greenville, SC)	1,623	104	9,789	(79)	568
33	□	**Nugget Oil** (Bloomington, MN)	1,554	102	7,788	(86)	471
34	60	**Texas Energies** (Amarillo, TX)	1,510	100	8,226	(83)	511
35	□	**SPM Group** (Englewood, CO)	1,486	100	4,281[1]	(95)	270
36	□	**LTX** (Westwood, MA)	1,452	98	47,010	(34)	3,029
37	38	**Heritage Communications** (Des Moines)	1,394	97	94,825[1]	(16)	6,348
38	37	**Intertec Data Systems** (Columbia, SC)	1,381	96	27,329	(49)	1,845
39	□	**United States Health Care Systems** (Willow Grove, PA)	1,379	96	51,224	(29)	3,464
40	67	**Jefferson-Williams Energy** (Dallas)	1,368	96	11,879	(75)	809
41	54	**Swanton** (New York)	1,362	96	23,573	(54)	1,612
42	32	**M.D.C.** (Denver)	1,338	95	83,526	(19)	5,807
43	□	**Cetus** (Berkeley, CA)	1,260	92	32,710	(46)	2,406
44	□	**Godfather's Pizza** (Omaha)	1,240	91	40,235	(39)	3,002
45	75	**Reeves Communications** (New York)	1,232	91	231,149	(4)	17,355

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Net income ($000) '82	'78	Net income as % of sales '82	(rank)	No. of Employees '82	(rank)	'78	Acquisitions '78-'82	Date inc.	SIC	Business description
3,899	(668)	1.6	(80)	668	(27)	28	Yes	1977	4743	Leasing & managing transportation equipment
5,708	21	11.2	(28)	310	(48)	9	No	1977	3573	Mfr. multi-user microcomputers
7,508	(525)	7.6	(53)	5,309	(1)	250	Yes	1978	5812	Franchisor family entertainment restaurants
8,083	(103)	12.8	(24)	1,135	(19)	23	No	1977	3573	Mfr. microprocessor-based terminal systems
61,306	793	10.5	(33)	3,300	(3)	58	Yes	1977	3573	Mfr. personal computer systems
3,786[2]	(1,703)	6.8[2]	(59)	800	(24)	35	Yes	1967	2339	Mfr. women's sportswear
4,000	(1,274)	18.8	(7)	253	(55)	20	No	1975	5086	Mfr. medical equipment
1,301	(6)	10.1	(37)	80	(87)	23	Yes	1968	1311	Oil & gas exploration
4,321[2]	(2,616)	11.9[2]	(26)	870	(23)	60	No	1972	3533	Provides oil & gas drilling data
(1,569)	(344)	loss	-	225	(62)	20	Yes	1975	4833	Operates cable TV systems
2,338	(5)	10.3	(36)	150	(72)	12	No	1974	7379	Designs management information systems
15,735	163	10.5	(34)	2,400	(8)	400	No	1976	3573	Mfr. computer disk drives
(642)	(178)	loss	-	130	(76)	12	No	1976	3841	Mfr. medical monitoring devices
(1,684)	(3,538)	loss	-	284	(51)	68	No	1964	3674	Designs photovoltaics, semiconductors
7,776	60	15.7	(12)	775	(25)	40	Yes	1976	3293	Mfr. data communications equipment
625	(373)	1.9	(79)	440	(43)	17	No	1976	5122	Mfr. pharmaceuticals & industrial chemicals
40	(7)	0.2	(82)	2,200	(9)	35	Yes	1978	5812	Franchises Mexican restaurants
640[2]	42	2.3[2]	(75)	370	(46)	30	Yes	1976	2869	Mfr. industrial tape, custom chemicals
2,700	97	12.0	(25)	286	(50)	40	Yes	1978	5063	Mfr. electronic security systems
3,134	2	11.0	(30)	445	(42)	13	No	1974	3573	Mfr. graphic display processors
76	(126)	2.1	(77)	55	(90)	20	No	1974	2813	Mfr. medical respiratory products
2,765	74	31.5	(2)	40	(93)	5	No	1975	1389	Provides seismic data services
192	20	6.3	(62)	28	(95)	3	No	1977	3841	Mfr. computerized medical systems
3,283	108	18.3	(8)	500	(35)	10	Yes	1970	3841	Mfr. electronic medical equipment
2,871	93	15.8	(11)	250	(56)	11	No	1977	3573	Mfr. computer switching and control systems
18,085	580	14.5	(17)	3,300	(4)	100	Yes	1976	7299	Owner/franchisor weight-loss centers
322	18	3.0	(72)	245	(58)	22	No	1977	4511	Commercial airline
1,510	(343)	9.3	(43)	230	(60)	80	No	1975	3832	Mfr. electro-optical test systems
1,045	1	5.8	(64)	438	(44)	25	No	1973	4939	Nuclear utility services
10,986	51	10.8	(29)	1,349	(15)	121	No	1973	3573	Mfr. word-processing systems
2,367	42	6.5	(60)	375	(45)	42	No	1976	3573	Mfr. microcomputer systems
974	70	10.0	(38)	165	(71)	28	No	1977	5812	Owner/franchisor restaurants
806	(219)	10.4	(35)	17	(98)	4	Yes	1976	1311	Oil & gas exploration, contract drilling
788	100	9.6	(41)	130	(77)	6	No	1966	1311	Oil & gas exploration, production
(216)[2]	(236)	loss	-	13	(99)	5	No	1977	4990	Mkts. waste conversion equipment
2,916	376	6.2	(63)	500	(36)	50	No	1976	3825	Mfr. computer-controlled test systems
4,709[2]	(275)	6.9[2]	(55)	2,000	(10)	140	Yes	1971	4899	Operates cable TV systems, display communications
7,878	117	28.8	(3)	300	(49)	25	No	1973	3573	Mfr. microcomputers
1,051	(817)	2.1	(78)	175	(68)	45	No	1976	8091	Comprehensive health-care systems
(308)	(108)	loss	-	27	(96)	4	No	1974	1311	Oil & gas exploration
916	56	3.9	(70)	450	(41)	100	Yes	1972	6281	Financial services, coal operations
6,177	515	7.4	(54)	200	(66)	70	No	1972	1522	Residential construct. & real estate develop.
4,505	(1,750)	13.8	(18)	544	(33)	148	No	1972	7391	Microbiology research & product development
6,026	270	15.0	(15)	202	(65)	30	Yes	1976	5812	Operates pizza restaurants
24,432	787	10.6	(32)	1,800	(12)	300	Yes	1969	7814	Producer/distributor films & TV programs

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Rank '83	Rank '82	Company	Sales Growth (1978-82) Percent increase	Sales Growth (1978-82) Compound annual rate	Sales ($000) '82	Sales ($000) (rank)	Sales ($000) '78
46	18	**Tandem Computers** (Cupertino, CA)	1,184 %	89%	$312,143	(2)	$24,305
47	□	**Nelson Research & Development** (Irvine, CA)	1,169	89	1,650	(100)	130
48	76	**Seneca Oil** (Oklahoma City)	1,150	88	20,098	(60)	1,608
49	□	**Gold C Enterprises** (Denver)	1,147	88	1,921	(99)	154
50	15	**Gulf Energy** (Salt Lake City)	1,127	87	11,939	(74)	973
51	74	**Key Pharmaceuticals** (Miami, FL)	1,110	87	82,314	(20)	6,803
52	□	**Lomak Petroleum** (Hartville, OH)	1,103	86	27,214[1]	(50)	2,262
53	50	**Oxoco** (Houston)	1,098	86	39,226	(42)	3,274
54	□	**Quality Systems** (Tustin, CA)	1,081	85	6,981	(90)	591
55	68	**Machine Technology** (Whippany, NJ)	1,017	83	9,271	(80)	830
56	□	**Dietrich Resources** (Denver)	1,006	82	3,361	(97)	304
57	□	**Monument Energy** (Houston)	1,001	82	45,595[1]	(35)	4,140
58	46	**Shopsmith** (Vandalia, OH)	984	81	80,082	(21)	7,388
59	□	**Phoenix American** (Mill Valley, CA)	925	79	15,666	(72)	1,529
60	49	**AM Cable TV Industries** (Coopersburg, PA)	915	79	18,543	(63)	1,826
61	□	**St. Jude Medical** (St. Paul)	913	78	17,528	(69)	1,730
62	52	**Miller Technology & Communications** (Phoenix)	875	77	7,692	(87)	789
63	65	**Health Extension Services** (Syosset, NY)	835	75	16,752	(70)	1,792
64	69	**Nuclear Pharmacy** (Albuquerque)	830	75	27,041	(51)	2,909
65	95	**Compucorp** (Santa Monica, CA)	816	74	35,000[1]	(45)	3,819
66	□	**Sykes Datatronics** (Rochester)	807	74	45,408	(36)	5,008
67	□	**Victor Kellering** (Brooklyn)	803	73	7,568	(88)	838
68	43	**Dysan** (Santa Clara, CA)	757	71	142,756	(10)	16,662
69	□	**Hadson Petroleum** (Oklahoma City)	754	71	39,820[1]	(41)	4,662
70	51	**Barton Valve** (Shawnee, OK)	752	71	23,513	(55)	2,760
71	44	**Sea Galley Stores** (Mountlake Terrace, WA)	751	71	70,085	(23)	8,237
72	98	**Service Fracturing** (Pampa, TX)	745	71	26,229	(52)	3,103
73	□	**C.P. Rehab** (New York)	743	70	4,297	(94)	510
74	80	**Cray Research** (Minneapolis)	722	69	141,149	(11)	17,177
75	53	**Pengo Industries** (Fort Worth)	700	68	150,664	(7)	18,835
76	□	**Trans-Western Exploration** (Dallas)	673	67	8,000[1]	(84)	1,035
77	66	**Intergraph** (Huntsville, AL)	673	67	155,642	(6)	20,146
78	□	**Scientific Leasing** (Farmington, CT)	672	67	11,546	(77)	1,495
79	□	**CACI** (Arlington, VA)	671	67	95,659	(15)	12,415
80	□	**Plasma-Therm** (Kresson, NJ)	665	66	19,113	(62)	2,500
81	□	**Hadron** (Vienna, VA)	642	65	19,752	(61)	2,663
82	□	**BSN** (Dallas)	623	64	8,525	(82)	1,179
83	99	**CPT** (Minneapolis)	620	64	145,027	(9)	20,133
84	36	**Liz Claiborne** (New York)	612	63	165,722	(5)	23,279
85	100	**Matrix** (Northvale, NJ)	604	63	40,400	(38)	5,736
86	□	**Cipher Data Products** (San Diego)	596	62	55,164	(26)	7,929
87	24	**International Game Technology** (Reno)	592	62	62,199	(25)	8,994
88	85	**Alaska Diversified Resources** (Anchorage)	591	62	7,937	(85)	1,149
89	78	**Immuno Nuclear** (Stillwater, MN)	585	62	4,879	(93)	712
90	□	**ADAC Laboratories** (Sunnyvale, CA)	575	61	52,800	(27)	7,823
91	□	**Ventrex Laboratories** (Portland, ME)	573	61	4,962	(92)	737
92	89	**C3** (Reston, VA)	565	61	48,577	(33)	7,303
93	96	**Ferrofluidics** (Nashua, NH)	551	60	7,020	(99)	1,078
94	40	**Computer Associates International** (Jericho, NY)	551	60	43,178	(37)	6,637
95	99	**North American Watch** (New York)	538	59	85,745	(18)	13,438
96	□	**Diagnostic/Retrieval Systems** (Oakland, NJ)	529	58	18,040	(66)	2,868
97	□	**Cullinet Software** (Westwood, MA)	523	58	49,269	(32)	7,914
98	□	**Cable TV Industries** (Los Angeles)	517	58	39,875	(40)	6,464
99	□	**Xonics** (Des Plaines, IL)	504	57	86,986	(17)	14,405
100	82	**Intelligent Systems** (Atlanta)	500	56	24,557	(53)	4,095

[1]Estimate (12/31 closing figure unavailable at press time) [2]Nine-month figure

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Net income ($000) '82	'78	Net income as % of sales '82	(rank)	No. of Employees '82	(rank)	'78	Acquisitions '78-'82	Date inc.	SIC	Business description
29,856	2,153	9.6	(42)	3,821	(2)	446	No	1974	3573	Mfr. multiple processor computer systems
(33)	(72)	loss	-	22	(97)	5	No	1972	2834	Mfr. pharmaceutical products
(4,575)	198	loss	-	150	(74)	30	No	1936	1311	Oil & gas exploration
146	15	7.6	(52)	28	(94)	5	No	1977	7319	Mkts. discount coupon books
272	7	2.3	(74)	93	(83)	34	Yes	1968	1311	Oil, gas, coal exploration
12,306	1,235	15.0	(16)	950	(22)	100	Yes	1947	2834	Mfr. ethical pharmaceuticals
1,094[2]	129	8.0[2]	(50)	85	(85)	8	No	1976	1381	Contract drilling of oil & gas wells
7,392	(12)	18.8	(6)	175	(67)	15	Yes	1972	1311	Oil & gas exploration
576	54	8.3	(49)	88	(84)	6	No	1974	7379	Supplier minicomputer turnkey systems
290	(19)	3.1	(71)	100	(82)	20	No	1971	3674	Mfr. systems for semiconductor manufacturers
(302)	30	loss	-	5	(100)	4	Yes	1974	1311	Oil & gas exploration, production
(2,707)[2]	204	loss	-	450	(40)	100	Yes	1969	1389	Provider oil-field equipment & services
(522)	206	loss	-	1,280	(17)	211	Yes	1972	3553	Mfr. woodworking equipment
4,005	230	25.6	(4)	120	(80)	25	No	1973	7394	Leases data processing equipment
(11)	(163)	loss	-	1,000	(20)	173	Yes	1974	1799	Constructs aerial cable distribution networks
2,326	18	13.3	(22)	120	(81)	35	No	1976	3845	Mfr. prosthetic heart valves & medical devices
332	51	4.3	(68)	170	(69)	65	Yes	1972	7372	Tech. training programs, computer software
507	51	3.0	(73)	250	(57)	25	Yes	1975	8051	Prov. home health care/institutional staffing
1,326	177	4.9	(66)	626	(31)	175	Yes	1974	5122	Dispenser of radiopharmaceuticals
1,956[3]	(139)	7.7[2]	(51)	495	(37)	64	No	1968	3573	Mfr. desktop & portable computers
7,847	495	17.3	(9)	710	(26)	408	No	1968	3573	Mfr. minicomputer peripheral equipment
20	119	0.3	(81)	325	(47)	30	Yes	1952	3079	Mfr. plastic vials for pharmaceutical products
9,010	2,853	6.3	(61)	3,000	(5)	426	No	1972	3573	Mfr. magnetic data storage media
18,830[2]	1,097	47.3[2]	(1)	124	(79)	32	No	1964	1311	Oil & gas exploration, production
1,602	167	6.8	(58)	228	(61)	60	Yes	1967	5084	Mfr. parts for oil & gas industry
(358)	312	loss	-	2,600	(7)	575	Yes	1968	5812	Operates seafood restaurants
3,937	338	15.0	(14)	275	(53)	65	Yes	1973	1389	Oil & gas field services
819	125	19.1	(5)	66	(89)	8	No	1972	8091	Prov. mgt. services to cardiac rehab. centers
19,000	3,501	13.5	(20)	1,300	(16)	321	No	1972	3573	Mfr. large-scale scientific computers
(82,800)	911	loss	-	2,850	(6)	450	Yes	1977	1389	Oil & gas field services & equipment
133[2]	(35)	2.2[2]	(76)	80	(88)	15	No	1976	1311	Oil & gas exploration
13,004	1,356	8.4	(48)	1,800	(13)	310	No	1969	3573	Mfr. interactive computer graphics systems
1,001	180	8.7	(46)	50	(91)	13	No	1968	8091	Leases equip. to health-care providers
4,402	542	4.6	(67)	1,600	(13)	300	No	1962	7372	Computer programming, management consulting
(669)	82	loss	-	270	(54)	50	Yes	1975	3621	Mfr. plasma-technology systems
(4,543)	240	loss	-	460	(39)	50	Yes	1964	3811	Mfr. laser systems, provides computer services
843	71	9.9	(39)	140	(75)	6	Yes	1972	5941	Mail-order mkting. of sports equipment
15,863	2,002	10.9	(31)	1,368	(14)	305	No	1971	3573	Mfr. word-processing systems
14,072	1,189	8.5	(47)	666	(28)	150	No	1976	2339	Mfr. women's sportswear
3,986	180	9.9	(40)	569	(32)	98	Yes	1956	3693	Mfr. medical diag. sys. & graphic recorders
2,236	265	4.1	(69)	986	(21)	165	Yes	1968	3573	Mfr. magnetic-tape drives
8,403	798	13.5	(19)	504	(34)	73	Yes	1952	5081	Mfr. coin-operated video games
727	62	9.2	(45)	48	(92)	5	Yes	1960	5732	Operates retail consumer electronics stores & hotels
652	(62)	13.4	(21)	77	(88)	28	No	1975	3829	Mfr. medical diagnostic kits
4,846	1,039	9.2	(44)	665	(29)	165	No	1970	3693	Mfr. medical diagnostic imaging systems
(1,969)	(595)	loss	-	170	(70)	31	Yes	1976	3841	Mfr. medical diagnostic products
8,355	1,521	17.2	(10)	242	(59)	50	No	1968	7372	Supplier customized minicomputer systems
(2,418)	120	loss	-	129	(78)	25	No	1968	3811	Mfr. ferrofluidic seals & magnetic fluids
2,962	101	6.9	(57)	650	(30)	81	Yes	1974	7372	Mfr. standardized software products
5,887	740	6.9	(56)	280	(52)	50	No	1961	5094	Importer/distributor of watches
2,082	(279)	11.5	(27)	215	(63)	75	No	1968	3662	Mfr. signal processors & digital recording systems
7,601	1,044	15.4	(13)	480	(38)	102	Yes	1968	7372	Provides database management systems
2,191	61	5.5	(65)	150	(73)	85	No	1952	5065	Mfr. products used in cable TV industry
(796)	(4,742)	loss	-	1,200	(18)	1,000	Yes	1970	3841	Mfr. medical imaging products
3,210	164	13.1	(23)	205	(64)	53	No	1973	3573	Mfr. display terminals & desktop computers

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HOW A COMPANY MAKES THE INC. 100

Companies are ranked according to their percentage increase in sales during the previous five years, in this case 1978–82. To be included in the INC. 100, each company must meet the following criteria:

1. The company is an independent, publicly held corporation in a manufacturing, mining, or service industry. Utilities, banks, and other financial institutions are excluded.

2. The company was publicly held as of December 31, 1982.

3. The company shows an operating/sales history of at least five years, with an increase in its fiscal 1982 closing figure. Companies showing growth in the 1978–82 base period but a sales decline in the last year are excluded.

4. The company's 1978 sales were at least $100,000 but less than $25 million.

Sales and income figures are gathered from 10-Ks, prospectuses, annual reports, and various databases and directories. Additional information is collected from stock reports, trade magazines, and a wide array of general business publications. Telephone interviews are conducted with executives of the corporations to verify the figures.

By applying the four criteria above, as well as using a five-year growth rate of at least 400%, INC. reduced the number of companies that potentially qualified for listing from 12,000 to less than 200.

An editorial team led by senior editor Bradford W. Ketchum Jr. selected the 1983 INC. 100. Chief researcher on the project was Carol Torres, assisted by Maura McEnaney, John F. Persinos, and Leslie Schultz. Programming and data processing were headed by Elyse Friedman, research editor.

WHERE THE FAST GROWTH IS . . . BY INDUSTRY

Here is a ranking of the 1983 INC. 100 companies by industry, according to sales. To the right of each industry heading is the average number of times companies in that category have multiplied their sales in the five-year base period (1978–82).

The number after each name indicates how many times that company multiplied its sales. As a group, for example, the five companies in the food service and processing industry multiplied their sales an average of 71.8 times from 1978 to 1982.

Food Service & Processing (71.8)

Pizza Time Theatre (285.3)
Consul (34.8)
Ryan's Family Steak Houses (17.2)
Godfather's Pizza (13.4)
Sea Galley Stores (8.5)

Computers & Related Products (42.0)

Altos Computer Systems (339.7)
ISC Systems (89.5)
Apple Computer (74.2)
Tandon (46.9)
Lexidata (32.2)
Data Switch (24.6)
Vector Graphic (17.8)
Intertec Data Systems (14.8)
Tandem Computers (12.8)
Compucorp (9.2)
Sykes Datatronics (9.1)
Dysan (8.6)
Cray Research (8.2)
Intergraph (7.7)
Cipher Data Products (7.0)
Diagnostic/Retrieval Systems (6.3)
Intelligent Systems (6.0)

Apparel (35.9)

Bio-Medical Sciences (64.7)
Liz Claiborne (7.1)

Data Communications, Scanners, & Word Processing (21.3)

Micom Systems (38.7)
NBI (18.0)
CPT (7.2)

Cable TV Systems & Services (20.9)

Movie Systems (52.4)
Heritage Communications (14.9)
AM Cable TV Industries (10.2)
Cable TV Industries (6.2)

Petroleum Industry Products & Services (19.6)

Teleco Oilfield Services (54.9)
Flare (26.9)
Monument Energy (11.0)
Barton Valve (8.5)
Service Fracturing (8.5)
Pengo Industries (8.0)

Medical/Health Products & Services (18.5)

Electro-Biology (63.1)
Biochem International (45.5)
Genentech (38.1)
Oxygen Enrichment (31.9)
Medical Graphics (28.5)
Healthdyne (25.1)
Nutri/System (20.6)
United States Health Care Systems (14.8)
Nelson Research & Development (12.7)
Key Pharmaceuticals (12.1)
St. Jude Medical (10.1)
Health Extension Services (9.3)
Nuclear Pharmacy (9.3)
C. P. Rehab (8.4)
Scientific Leasing (7.7)
Matrix (7.0)
Immuno Nuclear (6.9)
ADAC Laboratories (6.7)
Ventrex Laboratories (6.7)
Xonics (6.0)

Oil, Gas, & Minerals (16.7)

Mid-America Petroleum (60.8)
Nugget Oil (16.5)
Texas Energies (16.1)
Jefferson-Williams Energy (14.7)
Seneca Oil (12.5)
Gulf Energy (12.3)
Lomak Petroleum (12.0)
Oxoco (12.0)
Dietrich Resources (11.1)
Hadson Petroleum (8.5)
Trans-Western Exploration (7.7)

Data Processing & Software (15.3)

ASK Computer Systems (48.5)
KLA Instruments (19.2)
LTX (15.5)
Quality Systems (11.8)
CACI (7.7)
C3 (6.7)
Computer Associates International (6.5)
Cullinet Software (6.2)

Miscellaneous (51.0)

BRAE (890.7)
Energy Conversion Devices (44.9)
Chemical Investors (34.5)
Crime Control (32.8)
Comair (19.9)
Nuclear Support Services (18.0)
SPM Group (15.9)
Swanton (14.6)
M.D.C. (14.4)
Cetus (13.6)
Reeves Communications (13.3)
Gold C Enterprises (12.5)
Machine Technology (11.1)
Shopsmith (10.8)
Phoenix American (10.2)
Miller Technology & Communications (9.7)
Victor Kellering (9.0)
Plasma-Therm (7.6)
Hadron (7.4)
BSN (7.2)
International Game Technology (6.9)
Alaska Diversified Resources (6.9)
Ferrofluidics (6.5)
North American Watch (6.4)

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Investing in Growth Companies

O YE OF LITTLE FAITH

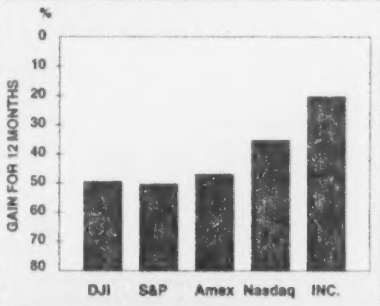
Like the weather, the fortunes of fast-growth stocks can change overnight. Witness the rebound of this year's INC. 100 portfolio.

In what might have seemed a desperate sop to a sorry situation (with its 27% loss, the 1981–82 INC. market average was the scruffiest of a sad lot), INC. concluded its stock-performance roundup last year with the assumption that "what went down can also go up." Added INC., more out of wistfulness than confidence: "The volatility of stocks like those represented on the INC. list can turn frowns into smiles in a matter of weeks."

Well, since stocks in general continued to drop through most of the summer of 1982, it wasn't exactly a matter of weeks. But in August a bona fide bull market began. And sure enough, INC.'s tentative reflection has since proved not only sound, but downright prescient. Thanks to the ability of smaller companies to move relatively quickly in the stock market—a factor of volatility that technical analysts call "beta"—an investor placing $100 into each of the INC. 100 companies at its average price in March 1982 (or, in the case of seven companies, the average price within the month of their going public) would have had a profit of 72% by March 1, 1983, not bad, considering that much of the list was under water for nearly half a year. (Although such investments could theoretically have been made, it is actually an exercise in futility, since the INC. 100 candidates are not determined until a year later. But, however utopian, the 72% profit is come by honestly: INC. establishes each stock's cost midway between the high and low for 1982 on the assumption that it represents an attainable buying level; the price shown for March 1983, is the actual closing price, accounting for splits and stock dividends where necessary.)

As the accompanying table and bar graph display, equal investment in the INC. 100 outstripped four widely known rivals by significant margins. It doubled the gain of Standard & Poor's 400, and nearly doubled that of the 30 Dow Jones Industrials. It performed 80% better than the American Exchange Market Value Index and outdid the NASDAQ Industrial average by a third, leaving little doubt that—from August to March, anyway—equities of fast-growth, mostly thinly capitalized, small companies were the swiftest tickets to market profit (87 of the INC. 100 corporations are traded in the over-the-counter market, only 7 are on the New York Stock Exchange, and the remaining 6 are on the American Stock Exchange.)

INC. VERSUS POPULAR AVERAGES



RELATIVE MARKET PERFORMANCE

	3/1/82	3/1/83	% gain
INC. 100	$100.0	$ 172.0	72
DJI	825.8	1,130.7	37
S&P 400	124.9	169.5	36
Amex	268.5	376.7	40
NASDAQ	204.5	315.0	54

To stay more in keeping with the industrial nature of the INC. 100 *list, which excludes utilities, holding companies, and banks as well as other institutions,* INC. *has matched its* 100 *this year with the Industrial sectors of the Dow Jones, Standard & Poor's, and NASDAQ averages, rather than with their respective composites as was done in last year's comparison. As a matter of academic interest, had* INC. *also chosen to expunge from its rankings the 17 oil and oil-related stocks, most of which fared abysmally in the market, the resulting all-the-more-industrial 12-month percentage gain would have leapt from 72 to 90.*

And what a difference a year makes. While in 1982's report only 22 INC. stocks had managed gains and the largest was the $70.16 tacked on by Ferrofluidics, this time no fewer than 73 went up. The biggest winner—a quintupler—was newcomer Scientific Leasing, a corporation with only 1.5 million shares outstanding that rents high-tech equipment to health-care and other facilities. All told, 44 stocks exceeded last year's leader, giving solid credence to another incisive INC. reflection from 1982: "In the long run, fundamentals matter, and, if the sales growth records turned in by these companies mean anything, the future should be brighter than the immediate past."

O ye of little faith! Apple Computer, last year's leading grower in terms of sales, improved its stock market record from the 30% loss in 1982 to a 185% gain in '83. And all Apple did was keep growing. A number of other fast-growing but fast-losing 1982 stocks made equally dramatic reversals in 1983. Among them: Computer Associates International, down 6% in 1982, but up 268% this year; Micom Systems, down 38% in '82, up 218% in '83; ASK Computer Systems, a loser of 8%, and a gainer of 130%. Even Matrix, barely making last year's list as the 100th on the INC. 100, gained 116% after dropping 47%.

But alas, INC.'s homily on growth and patience didn't hold in every case. This year's biggest loser—Pengo Industries, an oil-well service company—was among last year's poorer performers as well, dropping 75% and 58%, respectively, despite revenue growth of more than 500% over the past five years. The problem is that, sharing sorrows suffered by the oil sector over the last several years, Pengo dropped $8.36 per share down the well in 1982; in five years it has shed 92% of its stock price. So,

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clearly, expanding revenues are no guarantee of stock market reward, particularly if costs expand at the same—or a faster—rate. Indeed, among INC.'s 26 losing stocks, no fewer than 12 are oil or oil-related companies. Had a savvy investor eschewed the 17 oils in the comparatively oil-heavy INC. 100 list (the 30 Dow Industrials have only 3), an equal investment in each of those remaining would have netted 90% for the 12 months.

But, as dismal as they have been, even the oils cannot continue their slide forever. Remember INC.'s now-documented credo that what can go down can also go back up. And already, technical-chart patterns show that the oil group is stabilizing and is demonstrating increased upside potential. Thus it is not beyond the realm of possibility that, given the same growth rate it has been enjoying—plus a humbled OPEC—this group could (we're not saying "will") lead next year's INC. 100 gainers.

—Robert A. Mamis

From August to March, equities of fast-growth, mostly thinly capitalized, small companies were the fastest tickets to market profit, outpacing four rival indexes.

INC. 100 MARKET PERFORMANCE

Company (symbol/exchange)	1983 rank	3/82	3/83	$100 Worth
1. **Scientific Leasing** (SG/A)	78	$ 5.00	$ 26.00	$520.00
2. **CACI** (CACI/O)[1]	79	36.25	144.00	397.24
3. **Nelson R&D** (NELR/O)	47	8.00	30.50	381.25
4. **Computer Assoc. Int'l** (CASI/O)	94	12.63	46.50	368.32
5. **ADAC Labs** (ADAC/O)[2]	90	13.88	50.50	363.96
6. **Xonics** (XOXIA/O)	99	1.88	6.25	333.33
7. **Micom Systems** (MICS/O)	15	21.75	69.25	318.39
8. **M.D.C.** (MDCO/O)	42	3.94	12.50	317.46
9. **Diagnostic/Retrieval** (DRSI/O)[3]	96	13.75	42.50	309.09
10. **Cullinet Software** (CUL/N)[4]	97	31.50	96.75	307.14
11. **C. P. Rehab** (CRHB/O)	73	10.63	32.50	305.88
12. **Comair** (COMR/O)	27	3.25	9.75	300.00
13. **Tandon** (TCOR/O)[5]	12	25.25	73.50	291.09
14. **Texas Energies** (TXENW/O)	34	0.88	2.50	285.71
15. **Apple Computer** (AAPL/O)	5	16.25	46.38	285.39
16. **Data Switch** (DASW/O)[6]	25	15.38	43.50	282.93
17. **Medical Graphics** (MGCC/O)	23	4.63	12.25	264.87
18. **BSN** (BSNC/O)	82	2.75	7.25	263.64
19. **Cipher Data Products** (CIFR/O)	86	11.50	29.75	258.70
20. **Key Pharmaceuticals** (KPH/A)[7]	51	20.50	50.00	243.90
21. **Ryan's Family Steak**(RYAN/O)[8]	32	9.94	24.00	241.51
22. **Consul** (CNSL/O)	17	5.81	14.00	240.86
23. **Machine Tech.** (MTEC/O)	55	3.06	7.25	236.74
24. **ASK Computer Syst.** (ASKI/O)	11	12.63	29.13	230.69
25. **Crime Control** (CRIM/O)	19	8.69	19.75	227.34
26. **Ventrex Labs** (VTRX/O)	91	4.13	9.25	224.24
27. **Matrix** (MAX/A)	85	18.31	39.50	215.70
28. **Gold. C Enter.** (GCEI/O)[9,10]	49	0.08	0.16	209.84
29. **Bio-Medical Sciences** (BMSC/O)	6	1.38	2.88	209.09
30. **Plasma-Therm** (PTIS/O)	80	2.75	5.75	209.09
31. **Genentech** (GENE/O)	16	30.63	64.00	208.98
32. **Healthdyne** (HDYN/O)	24	19.38	40.25	207.74
33. **Nuclear Support Svs.** (NSSI/O)	29	7.38	15.00	203.39
34. **Nuclear Pharmacy** (NURX/O)	64	7.56	15.13	200.00
35. **CPT** (CPTC/O)	83	13.44	26.63	198.14
36. **Intelligent Systems** (INTS/O)	100	17.38	34.25	197.12
37. **Vic Kellering** (none/O)[9]	67	1.80	3.50	194.44
38. **KLA Instruments** (KLAC/O)	28	16.38	31.25	190.84
39. **BRAE** (BRAE/O)	1	6.75	12.75	188.89
40. **Biochem Int'l** (BIOC/O)	13	7.06	13.25	187.61
41. **Compucorp** (CCUP/O)	65	8.69	15.63	179.86
42. **Godfather's Pizza** (GFPZ/O)[6]	44	11.13	19.75	177.53
43. **LTX** (LTXX/O)	36	17.88	31.25	174.83
44. **Electro-Biology** (EBII/O)	7	19.88	34.50	173.59
45. **Dysan** (DYSN/O)	68	13.50	22.75	168.52
46. **Nutri/System** (NTR/N)	26	20.13	33.63	167.08
47. **NBI** (NBI/N)	30	23.63	39.00	165.08
48. **Energy Conver. Dev.** (ENER/O)	14	12.13	19.50	160.83
49. **Teleco Oilfield Svs.** (TLCO/O)	9	9.88	15.75	159.49
50. **Swanton** (SWTN/O)	41	7.13	11.25	157.90
51. **ISC Systems** (ISCS/O)	4	12.63	19.75	156.44
52. **Liz Claiborne** (LIZC/O)	84	25.63	39.75	155.12
53. **Phoenix American** (PHXA/O)[11]	59	14.88	22.88	153.78
54. **Cray Research** (CYR/N)	74	29.19	44.13	151.18
55. **St. Jude Medical** (STJM/O)	61	17.13	25.50	148.91
56. **C3** (CEE/N)	92	12.75	18.88	148.04
57. **Health Extension Svs.** (HLP/A)	63	6.63	9.75	147.17
58. **U.S. Health Care Sys.** (USHC/O)	39	25.00	35.50	146.00
59. **Quality Systems** (QSII/O)[11]	54	20.88	28.50	136.53
60. **Intergraph** (INGR/O)	77	21.88	29.75	136.00
61. **AM Cable TV Indus.** (AMTV/O)	60	5.38	7.25	134.88
62. **Oxygen Enrichment** (OECO/O)	21	5.25	6.75	128.57
63. **Ferrofluidics** (FERO/O)	93	3.81	4.88	127.87
64. **SPM Group** (SPMC/O)	35	0.34	0.44	127.27
65. **Flare** (FLAR/O)	22	2.63	3.31	126.19
66. **Heritage Communic.** (HCI/N)	37	9.94	12.50	125.79
67. **Cetus** (CTUS/O)	43	11.19	14.00	125.14
68. **Lexidata** (LEXD/O)	20	9.75	11.88	121.80
69. **Miller Tech. & Comm.** (MECC/O)	62	7.81	9.38	120.00
70. **Oxoco** (OXCO/O)	53	7.75	8.63	111.29
71. **Tandem Computers** (TNDM/O)	46	23.38	25.75	110.16
72. **Shopsmith** (SHOP/O)	58	7.50	8.25	110.00
73. **Lomak Petrol.** (LOMK/O)	52	1.60	1.63	101.88
74. **N. Amer. Watch** (none/O)[9]	95	31.00	31.00	100.00
75. **Hadron** (HDRN/O)	81	2.56	2.44	95.12
76. **Alaska Divers. Res.** (ADRI/O)	88	1.41	1.33	93.51
77. **Vector Graphic** (VCTR/O)	31	10.63	9.63	90.59
78. **Reeves Commun.** (RVCC/O)[12]	45	29.88	27.00	90.38
79. **Immuno Nuclear** (INUC/O)	89	12.25	11.00	89.80
80. **Sea Galley Stores** (SEAG/O)	71	9.25	8.00	86.49
81. **Intertec Data Sys.** (IDC/A)	38	16.34	14.13	83.40
82. **Mid-America Petrol.** (MAMP/O)	8	2.25	1.88	83.33
83. **Pizza Time Theatre** (CHKY/O)	3	23.00	18.50	80.44
84. **Cable TV Indus.** (CATV/O)	98	7.88	6.25	79.37
85. **Chemical Investors** (CHML/O)	18	2.75	2.06	75.00
86. **Jefferson-Wms. Ener.** (JWEC/O)	40	5.13	3.75	73.17
87. **Movie Systems** (MOVSC/O)	10	3.75	2.63	70.00
88. **Nugget Oil** (NUGO/O)	33	1.44	1.00	69.57
89. **Altos Computer** (ALTO/O)[13]	2	31.63	21.13	66.80
90. **Int'l Game Tech.** (IGAM/O)	87	13.63	9.00	66.06
91. **Service Fracturing** (SERF/O)	72	11.75	7.00	59.57
92. **Dietrich Resources** (DTRH/O)	56	0.47	0.25	53.33
93. **Gulf Energy** (GFEC/O)	50	0.42	0.22	52.07
94. **Hadson Petrol.** (HADS/O)	69	9.25	4.75	51.35
95. **Sykes Datatronics** (SYKES/O)	66	21.13	10.25	48.52
96. **Seneca Oil** (SNCA/O)	48	5.56	2.63	47.19
97. **Trans-Western Expl.** (TWEX/O)	76	7.31	3.38	46.15
98. **Barton Valve** (BART/O)	70	17.38	6.75	38.85
99. **Monument Energy** (MNE/A)	57	9.06	2.63	28.97
100. **Pengo Industries** (PGO/N)	75	11.00	2.75	25.00

(N) New York Stock Exchange, (A) American Stock Exchange, (O) over the counter. (1) 200% stock div., 12/82. (2) Split 2/1, 11/82. (3) 100% stock div., 10/82. (4) Split 2/1, 1/83. (5) Split 2/1, 8/82. (6) First public 4/82. (7) Split 3/2, 9/82. (8) First public 7/82. (9) Best available quote. (10) First public 6/82. (11) First public 12/82. (12) 50% stock div., 12/82. (13) First public 11/82.

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THE MAGAZINE FOR GROWING COMPANIES

Inc.

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GOLDEN HANDCUFFS
How entrepreneurs are using equity to keep key employees

WHO'S RUNNING AMERICA'S FASTEST GROWING COMPANIES

A PROFILE OF THE INC. 100 CEOs

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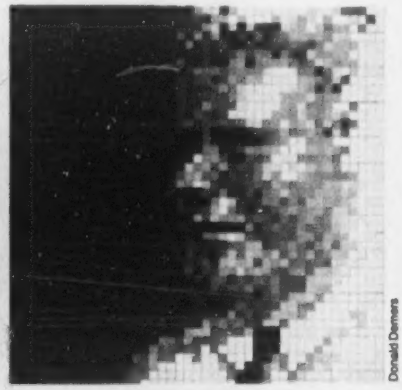

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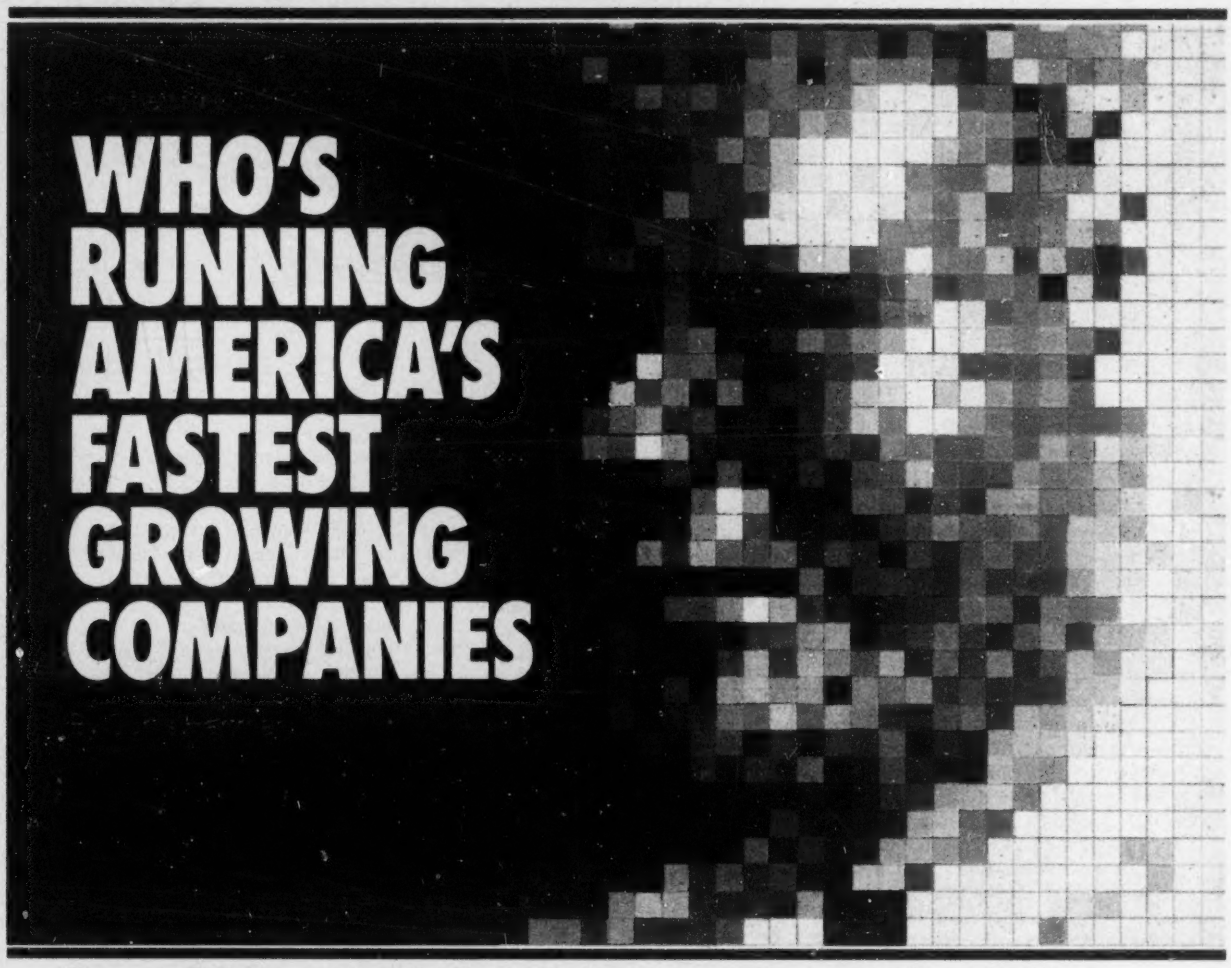
WHO'S RUNNING AMERICA'S FASTEST GROWING COMPANIES



'Every CEO on the INC. *100 is a hero to me. They built something from nothing—not with a million their daddy left them, but with their own wits.'*

—Barry R. Bronfin, Scientific Leasing Inc.

He is 48 years old. He founded the company 12 years ago. Today he holds 21% of the equity, plus the lion's share of the responsibility. His picture prefaces the company's annual report. He is the chief executive officer of one of America's 100 fastest-growing public companies as determined by INC. in May 1983.

He trained as an engineer. Frustrated by bureaucracy and paperwork when he was at a *Fortune* 500 company, he saw a market niche and went after it on his own. Hampered by insufficient capital at the launch, he lived for the job—and made the business grow. The company he founded in the early 1970s with a handful of employees now has 683 names on the payroll and sales of $53 million a year.

Research assistance for this special report was provided by Elyse Friedman, Maura McEnaney, John F. Persinos, Leslie Schultz, and Carol Torres.

The business has made him wealthy, but the satisfaction no longer comes from cash. Now it comes with the constantly changing challenges. He still works a 60-hour week and vows he will never retire.

And he doesn't exist, except in statistics. There is no "average" CEO of the INC. 100 companies; instead there are 100 distinct individuals—97 men and three women, as diverse as the companies they head. They include 20 providers of health-care products and services, 17 computer manufacturers, 11 energy producers, eight data processor manufacturers, and five restaurateurs and the heads of four cable television systems and three word processing companies. There are equipment lessors, a fashion designer, and a diet king. Frank Lasater, of Flare Inc., the youngest CEO on the list, is 32. George Acker, of Cable TV Industries, the oldest, is 71. John Sculley, brought over from giant PepsiCo, has been CEO at Apple Computer Inc. for only a few months, while Konrad Ruckstuhl, founder and CEO of SPM Group, has been with his business for 44 years. But they all share the satisfaction, and the solitary pressures, that go with the title of CEO.

The idea of drawing a composite portrait of the INC. 100 CEO began with a shattered assumption. According to conventional wisdom, the entrepreneur and the manager are two different types. The skills necessary to launch a new company, so the myth holds, are radically different from those needed to run it smoothly once it has crossed a certain threshold—$10 million, say, or $50 million.

The INC. 100 report disproved the myth. Of the small companies represented, 76 are still managed by their founders.

Since the report was published, we have looked closer at the 100 CEOs, entrepreneurial founder and hired manager alike, persuading some two-thirds to participate in hour-long interviews. The result is an insider's answer to who is running America's fastest-growing companies.

Illustration by Don Demers

GETTING TO THE TOP—AND STAYING THERE

'I don't think about my weaknesses; it's too easy to turn those into excuses. I don't see obstacles, just minor impediments.'

—Sandra Kurtzig, ASK Computer Systems Inc.

John Stephens of Movie Systems Inc. calls it "determination." Robert Foster of Ventrex Laboratories Inc. calls it "the ability to stay optimistic when it's raining." John R. Folkerth of Shopsmith Inc. says his wife calls it "pigheadedness." Whatever their education, training, or experience, whatever their strengths and weaknesses, most of the INC. 100 CEOs agree that persistence is the primary prerequisite for success.

A college degree is not required. Although Joe Quick of Nuclear Support Services Inc. may worry that "my lack of a sheepskin really hurts me," 14% of the INC. 100 CEOs left school before graduating from college. Engineers lead the college graduates, with 30% holding bachelor degrees in electrical, mechanical, or chemical engineering. Another 13% hold economics degrees, while only 9% boast business degrees. Charles Haverty of Xonics Inc. studied in a seminary, Elisabeth Claiborne Ortenberg of Liz Claiborne Inc. studied art in France.

Almost half—46%—of the INC. CEOs have advanced degrees, most often in engineering, 31%; followed by business administration, 27%; or law, 12%. Only three hold PhDs. Joe Quick is still going to school, studying by correspondence for a business degree.

Some 16% came from brokerage houses, banks, or accounting firms. A few, 4%, like Quick, came out of the military. Most, however, had a background in business management, usually in the same field as the company they would later run.

Nearly half had some experience in a *Fortune* 500 company, often developing the product—or the motivation—to go independent. Richard Greene had spent 11 years at IBM Corp. when he got the idea for Data Switch Corp. He took it to his corporate superiors first, "but they weren't interested. So after two years of frustration, I went out on my own." Richard Blackmer had been a project engineer at General Electric Co. for 25 years, when GE began to sell off its new ventures, including the project he had been working on, Blackmer founded Oxygen Enrichment Co. Gerhard Von der Ruhr developed the initial idea behind Biochem International Inc. while he was at GE as well, but the decision to go out on his own came earlier, when he was in his early thirties and an international vice-president of Bristol-Myers Co. "I realized I didn't want to spend the next 30 years of my life working for a large corporation," Von der Ruhr remembers. "I didn't seriously aspire to the presidency of Bristol-Myers; instead, I wanted to be in charge of my own destiny and have a stake in the company as well."

The old truism that the quickest way to the CEO's chair is to start the company is proven once again by the CEOs on the list. Only 24 are outside managers, brought in an average of 10 years after the launch; the other 76 were present at the creation. On average, the founding CEOs were 37 years old when they set out. The youngest was

HOME IS WHERE THE HEADQUARTERS IS

'We all like Milwaukee, even though it's hardly a swinging place. At least you know people will be able to get out of bed and come to work in the morning.'

—Gerhard Von der Ruhr, Biochem International Inc.

INC. 100 CEOs are based in 30 different states, with California, New York, and Texas topping the list. And half of the founders chose their location for the same prosaic reason as John Cullinane. He started Cullinet Software in the Boston area "because I happened to be living here." Richard Greene of Data Switch Corp. had lived in the same Connecticut home for 16 years and didn't want to move; James Hoak of Heritage Communications Inc. moved back to Des Moines, after a short stint with the Federal Communications Commission in Washington, D.C., to set up a cable system with his boyhood friends.

One out of three of the founders chose headquarters based on closeness to markets and a trained labor pool. Computer-related companies like Gus Constantin's Phoenix American located near California's Silicon Valley; energy producers like Jesse Edwards's Mid-America Petroleum Inc. set up near the Texas oil fields. Liz Claiborne Ortenberg designs and manufactures women's sportswear on New York's Seventh Avenue, in the heart of the garment district; International Game Technology CEO J. George Drews makes video gambling machines in Reno, Nev., where the action is.

High costs and limited capital kept Robert Foster of Ventrex Laboratories Inc. and his five co-founders from locating their medical diagnostics company near their Boston-area homes. So they weighed the criteria for the perfect headquarters, including schools, quality of life, and transportation, then moved north to Portland, Maine. "If this thing failed, at least we could say we had a good life experience," Foster reasoned.

Joe Quick of Nuclear Support Services Inc. came to his Hershey, Pa., location by accident. After retiring from the military, he had settled in Virginia and set up his utility services company there. Then came the 1979 nuclear incident at Three Mile Island. "Since we moved here," he says, "business has been booming."

19-year-old Konrad Ruckstuhl of SPM Group; the oldest was 54-year-old Raymond Mueller of Comair Inc. The companies they began now average 12 years of age; 71 were founded in the 1970s. Only 6 were formed before 1960.

Two-thirds of the founders had a partner, three-quarters of whom are still in the business. The split, if it came, was most often a parting of directions in the early years. One co-founder of Intelligent Systems Corp., for example, wanted to develop units at a high cost/high performance bias; he left to start his own business. A Ferrofluidics Corp. partner left when the emphasis changed from research and development to marketing; he became a senior scientist at Exxon Corp.

The majority of the founders—61%—considered their company market-driven rather than product-driven at the outset, whether the market involved computers or energy, health care or food. Gedalio Grinberg began North American Watch Corp. when he decided to gamble that people would buy watches as status fashion accessories rather than mere timepieces. The growing number of fashion-conscious women in the work force led Elisabeth Claiborne Ortenberg to set up her own women's sportswear company under the Liz Claiborne label. Merrill Anderson of Consul Corp. had been an investment banker who raised money for a Mexican-hot-sauce business then saw it take off—and decided to buy into Mexican-food franchises. Harold Katz of Nutri/System Inc., on the other hand, decided to franchise weight-loss centers after following his mother's unsuccessful weight-loss attempts.

Initial funding for the 100 companies most often came from multiple sources. Some 69% of the CEOs raised funds from personal savings, 39% from outside investors, 28% from banks, and 9% from venture capitalists.

For over a third of the founders, insufficient resources were the biggest hurdle at the start. "I didn't even realize at the time just what undercapitalized meant," Leonard Newman, CEO of Diagnostic/Retrieval Systems Inc., says ruefully. B. Robert Jefferson of Jefferson-Williams Energy Corp. remembers being "so undercapitalized that it was one continual crisis."

Life at Oxygen Enrichment was a shock for Richard Blackmer after his 25 years at GE. "With a large corporation, marketing, distribution, and servicing were automatic; we had to learn all of that," he says. "We'd been dealing with almost limitless resources at GE, but when we started out on our own we were operating out of a garage with a screwdriver and a wrench."

Blackmer began with less than $170,000. "If things had gone according to plan, we wouldn't have needed any more." But negotiations with GE stretched out over a year, draining his cash pool. Developing the financial vocabulary and savvy to raise more "felt like going into a foreign country," he says.

One-third of the founders complain of lack of business experience as a hurdle at the outset. "But that inexperience may be a blessing, because you're too dumb to know what you shouldn't do," Dean Sloane of CP Rehab Corp. says. "I'm not very smart," Frank Lasater of Flare concedes. "I've accomplished what I've accomplished by being like a pit bulldog."

Such tenacity has paid off for the group as a whole. Average sales of the INC. 100 now surpass $53 million; 21 companies are over the $75 million mark, including 13 that have surpassed $100 million and 4 that have topped $200 million. On average, sales are growing at a compound annual rate of 89%. Running at 9.6% of sales, net income averages $4.6 million.

The average CEO holds 21% of the equity in his company. The range extends from J. George Drews's 1% of International Game Technology to George Acker's 70% of Cable TV Industries. Together the 100 have created 58,480 new jobs in the last five years. While they may marvel, like Franklin Bishop of Matrix Corp., that their business is "like a caterpillar that turned into a butterfly," nearly 90% say the vision of the company with which they began has stayed

NATURE OR NURTURE?

'I'm a poor boy from the Bronx, who used the GI bill to go to school and built a $20 million company up from nothing. I believe in the American flag and the American way. I love free enterprise.'

—Leonard Newman, Diagnostic/Retrieval Systems Inc.

Their family histories read like novels—family sagas and tales of Horatio Alger struggling up the ladder.

Rudy Miller took his first job at age nine to pay for schoolbooks. Today, at 36, he heads Miller Technology & Communications Corp., a $7.7 million training services company growing at a compound annual rate of 77%.

The gold rush lured Frank Reed Sr.'s grandfather to Alaska, where he built a lumber company, a hotel business, and one of the first hydroelectric plants in what was then the Yukon Territory. Today, with Reed as CEO, Alaska Diversified Resources Inc. generates $7.9 million in annual sales, mostly from retail electronics and software development, and Reed is working with the next generation, a son who is company president and a daughter who is on the board.

Sheldon Razin's grandfather came to the United States speaking only Russian—and built his own textile business, in part, Razin, CEO of Quality Systems Inc. theorizes, because "business desire and acumen were in our genes."

Nearly half of the INC. 100 CEOs had parents who were in business for themselves. BSN Corp.'s M. J. Blumenfeld's father ran an ice and coal company; SPM Group's Konrad Ruckstuhl's father launched a barge business on the Rhine. The fathers of Diagnostic/Retrieval's Leonard Newman, Phoenix American's Gus Constantin, Scientific Leasing Inc.'s Barry Bronfin, and CP Rehab Corp.'s Dean Sloane all owned retail stores. "It never occurred to me that I would work for somebody else," recalls Gary Hillman of Machine Technology Inc. "Even as a child I did things to raise money," Alvin McCall of Ryan's Family Steak Houses Inc. remembers. "I guess I was just born with it."

The next generation is expected to continue the tradition. While 28% of the INC. 100 companies forbid hiring relatives, another 41% of the CEOs already work with family members. And a full 75% hope to see their children follow them down the entrepreneurial path.

"I don't think it's a bad idea to encourage a child to become an entrepreneur," John Cullinane reasons. "You're not fettered by bosses and bureaucracies. Why not have the satisfaction of building something from nothing?"

But Dean Scheff of CPT Corp. disagrees. He would discourage his twin daughters from starting their own businesses. The costs, he says, are just too great. But Scheff knows well that children watch more than they listen. Years ago his own father, owner of a grain elevator in the Midwest, told him the same thing, recommending the security of a major corporation. So Scheff went to work for Univac and then for Honeywell Inc.—but in 1971 he launched CPT, which has now grown to $145 million in sales.

the same. "Only the scale is different," says C. R. Michaels of Lomak Petroleum Inc. Most insist that they have remained market-driven, "listening to our users and developing what they need," as John Cullinane of Cullinet Software explains.

The CEOs spend most of their workweek in the office, with usually only one day a week away from headquarters. Half turn most often to colleagues and associates for business advice first; one-third to a board member; and one-tenth to a spouse. On a broader scale, 85% read for information about technology, market development, and news of their competitors, most often in trade journals. *The Wall Street Journal* is the favorite source of daily business news. Some 70% attend industry conferences and seminars, 46% are active in trade associations, and 4% are members of Young Presidents' Organization Inc. Beyond that, 27% sit on other corporate boards and 21% pursue business interests beyond their INC. 100 company.

Persistence is one quality that is common to the success of the INC. *100 CEOs. But even more pervasive is the tenacious hold each one has on the corporate reins.*

The majority—71%—are not hands-on computer users, most often agreeing with Leonard Carr of Oxoco that "my people are a lot better at it than I am, so I let them do it. Otherwise, I'd be here 18 hours instead of 12." Their job, most of the INC. 100 CEOs insist, isn't with the computers, although they rely on the increased data computers provide. Instead, the crux of the CEO's job is much more fundamental. Most say their main responsibility is to set a corporate course, to make sure that the values with which the company began are maintained throughout the operation.

"The job is to orchestrate, to keep everyone working in the same direction," Flare's Frank Lasater says. Joe Quick of Nuclear Support Services calls it "project management"—"keeping all the things the company is doing in vision as one single project, then making everyone aware of their targets and keeping them on track."

"The CEO establishes the personality of the business," John Cullinane explains. "His most important role is to set the tone. You can write memos and try to set an official tone, but it's the philosophy you act out day by day that ripples through the organization."

Running a growing organization with a growing staff is different from starting out on your own. If persistence is most often cited by the CEOs as the first requirement for success, "good people" is cited second. "The CEO has to be a lion tamer," Tom Hendrick of Hadson Petroleum Corp. says. "But if he's going to succeed he's got to have some pretty good lions." For Vern Rees of St. Jude Medical Inc., that means that his most important responsibility is "being able to read people psychologically, understanding what makes them want to complete a task."

"You have to get your employees involved in the company," John Cullinane agrees. "You try to instill a team spirit so they don't worry about the clock." For Cullinane, as for fully 96% of the INC. 100 CEOs, building a team spirit means offering to share your equity with key employees. Shared equity means shared responsibility, shared risk—and shared gain. "We made 12 millionaires six months after going public," Richard Greene of Data Switch says happily.

But it is the CEO who has to decide when to roll the dice. Over and over again, the 100 CEOs describe themselves as aggressive and action-oriented, attracted to the risks that business success demands. "You've got to be decisive," James Hoak of Heritage Communications Inc. says. "You have to be confident and persistent, willing to make decisions and not look back. But there is a flip side to all that. Decisiveness carried to its extreme is impatience."

If the CEOs describe their strengths as persistence and decisiveness, they recognize as well that their biggest weakness is impatience, the belief that "I can do it faster myself—and better," and a consequent unwillingness to delegate. "As an entrepreneur, I felt that I had to do everything myself," Leonard Abramson of United States Health Care Systems Inc. says. "I had to force myself to delegate, to let go. But I've found that the secret is to pick good people and work with them. Develop confidence both ways, and then you can leave them alone—if they're good and well trained, you'll all succeed." No CEO can run a fast-growth company without sharing some of the pressures, but there is always more to be done. "I tried to delegate; I hired a new senior vice-president to relieve me of some of my duties," admits Jesse Edwards of Mid-America Petroleum Inc. "Then I just went out and found a lot of new ones."

As persistent as they are on the job—creating a corporate culture, training their staff, forcing themselves to delegate—the INC. 100 CEOs are even more tenacious about their hold on the corporate reins. A full 83% insist that they will never retire, often agreeing with Charles Muench of Intelligent Systems, who vows, "I won't go until they carry me out in a box."

David Jackson, the 45-year-old founder of Altos Computer Systems, is an exception, however. Jackson has already announced when he will retire. At age 84.

THE MYTH OF THE WORKAHOLIC

'Usually I take a couple days off each year—Thanksgiving and Christmas. But that'll change this year. It has to. I either have to take a vacation or get a new wife.'

—Jesse Edwards, Mid-America Petroleum Inc.

On average, the chief executive officer of an INC. 100 company spends 60 hours a week on the job; only 5% are able to get their work done in the standard 40-hour workweek. One, Konrad Ruckstuhl of SPM Group, labors 120 to 140 hours a week at his waste-recycling company, snatching "only a few hours" away from the business each year.

Few are as zealous as Ruckstuhl. Two out of three take at least one week off each year, if only for holidays and long weekends. If a CEO does get away on a planned basis, however, it is usually for about three weeks, often at a second home by a lake or the seaside, getting reacquainted with his or her spouse and family. Frank Reed Sr. of Alaska Diversified Resources Inc. heads for "somewhere warm."

"My business is my hobby and my mistress," admits Charles Haverty of Xonics Inc. But others are less single-minded, acknowledging, at least, outside hobbies—most often skiing, golf, or travel.

Five are sportsmen. Harold Katz of Nutri/System Inc. is the owner of this year's NBA World Champion Philadelphia 76ers. Three others are involved in horse-breeding. Rudy Miller of Miller Technology & Communications Corp. is a member of a knife-throwing association, taking target practice with 15 inches of sharpened steel when he needs to unwind.

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SIZING UP THE CEOs AND THEIR COMPANIES

THE INC. 100 CEOs AT A GLANCE

Business background

☐ 76% were the original owners, and 24% were outside managers, brought in on an average of 10 years after the launch

☐ 49% worked in a *Fortune* 500 company; 16% come from brokerage houses, banks, or accounting firms; 4% come from the military

☐ 67% of the founders had a partner, three-quarters of whom are still active in the business

Education

☐ 81% hold undergraduate degrees: 30% in engineering, 13% in economics, 9% in business

☐ 46% hold graduate degrees: 31% in engineering, 27% in business administration, 12% in law

Work habits

☐ the average workweek is 60 hours, with one day each week spent away from company headquarters; 65% take at least one week off for vacation a year

☐ 49% most often turn to colleagues for advice on business matters, 33% to a board member, 9% to a spouse

Outside activities

☐ 70% attend industry conferences and seminars, 46% are active in trade and lobbying organizations, 39% pursue continuing education

☐ 27% sit on other corporate boards, 21% have business interests beyond their INC. 100 company

Personal background

☐ 71% are not hands-on computer users

☐ 96% share equity with key employees

☐ 83% plan never to retire

☐ 50% chose their location because it was where they were living when they founded the company, 32% to be close to markets and trained labor

☐ 43% had parents who were entrepreneurs; 75% would like to see their children become entrepreneurs; 41% work with family members; 28% have company rules forbiddingthe hiring of family members

INC. 100 CEOs

Age when company was founded	Percent of CEOs
Under 25	5
25–35	41
36–45	30
46–55	22
Over 55	2

Current	
Under 25	0
25–35	7
36–45	33
46–55	35
56–65	21
Over 65	4

Initial sources of capital*	Percent of CEOs
Personal savings	69
Outside investors	39
Banks	28
Equity, prior business	13
Venture capital	9
Other	2

*Total exceeds 100%, due to multiple responses.

INC. 100 COMPANIES

1982 sales ($ mil.)	Percent of companies
Over $200	4
$150–$199	4
$100–$149	5
$ 50–$ 99	17
$ 25–$ 49	22
$ 10–$ 24	26
$ 5–$ 9	13
Under $5	9

No. of employees (1982)	Percent of companies
Over 2,500	7
1,000–2,499	13
500–999	16
250–499	21
100–249	25
50–99	9
10–49	8
Under 10	1

Company's age (in years)	Percent of companies
5	3
6–10	50
11–15	32
16–20	6
21–25	3
More than 25	6

THE PRIZE—AND THE COST

'Building something from your own idea is the best possible way to live. The inner applause you give yourself when you succeed outweighs anything anyone else could ever give you.'

—Leonard Abramson, United States Health Care Systems Inc.

It is rarely the dollars, although they are considerable. Nor is it the power or status. Instead, for most of the CEOs of the INC. 100, the continuing challenge of growth is the fuel that keeps them going. But growth means change, and every benefit has a cost.

M. J. Blumenfeld started out singlehandedly in 1971, a 24-year-old former professional baseball player selling tennis nets from the back of his car. He now heads BSN Corp., making and marketing $8.5 million in sporting goods and managing a staff of 140.

"It used to be the thrill of making a buck that motivated me," Blumenfeld notes. "But now, it's the recognition of success. The ego trip. And the best recognition is not from your peers, but from yourself. Everybody has the initial thrill of making his first million, but once he reaches a certain threshold, money is no longer the objective."

"It's the game," agrees Gus Constantin of Phoenix American. "I do what I do for the fun of it. I could sell this organization and retire, but that would be boring. I want to see how far I can go, to see if I can be the best. It's like a test."

For James Hoak of Heritage Communications, the test is "creating productive growth," measured in new jobs, satisfied customers, and prosperity. For Charles Haverty, brought in at Xonics in 1979, the test was pulling the company "out of the mud," away from serious trouble to $87 million in sales. "It's the satisfaction of defining a goal, seeing that goal met, then defining another one," Vern Rees of St. Jude Medical says. "If there are no goals ahead of you, there's nothing. Nothing rewarding, nothing exciting. Nothing."

There may well be sunshine and a pot of gold at the end of the entrepreneurial rainbow. But there is drizzle aplenty getting there.

"It seems I spend all my time in meetings," says John R. Folkerth, founder of Shopsmith. "I'm now the captain of the ship, guiding the course, instead of spending my time down below stoking the furnace."

Folkerth's regret is widely echoed. And going public, many add, has only exacerbated the problem, with constant reporting, meetings with accountants and lawyers, and calls from curious analysts. "There is a period when you go public where you are totally tied up with accountants and underwriters," complains Sheldon Razin of Quality Systems Inc. "Your financial responsibilities are suddenly expanded and complicated. Every time you want to do something, you have to ask your accountants and lawyers if it's okay."

"I spend too much of my time processing paper," says Robert Jefferson, cofounder of Jefferson-Williams Energy. "I miss the opportunity to spend time with all of our people. When we had only five or six employees, I was better able to improve each individual's productivity."

Lack of personal contact with employees is a common lament of the 100 CEOs. When Dean Scheff and his partner founded CPT in 1971 they had two salesmen

BIG FISH, BIGGER FISH

'My father always encouraged me to go to work for a large corporation. He said there was more security in it.'

—Dean Scheff, CPT Corp.

They both work a 60-hour week. And neither says he is motivated by the money. But except for those two similarities, the INC. 100 CEOs and their counterparts at the heads of America's largest corporations are like distant relatives from the same family.

While little attention has been paid to charting the demographics of the CEOs of the *Fortune* 500, two academic studies looking at the CEOs of America's 800 largest corporations were recently published in *Business Horizons* magazine. The differences are more striking than the similarities.

The INC. 100 CEO is younger. The median age of those leading the academic 800 is 57, with 87% over 50, while the median age of the INC. 100 is 48, with only 40% over 50. More than 4 out of 5 of the 800 come from upper-middle-class backgrounds, the children of professionals or corporate executives. The INC. 100 are more mainstream middle-class, half of them the offspring of entrepreneurs themselves. There is only one woman among the entire 800, Katharine Graham of Washington Post Co.; there are three women on the INC. 100: Lore Harp of Vector Graphic Inc., Elisabeth Claiborne Ortenberg of Liz Claiborne Inc., and Sandra Kurtzig of ASK Computer Systems Inc.

The most common background of the 800 was finance; the INC. CEOs consider finance their greatest weakness. The fastest route to the top of the 800 was with a law degree; only 3 of the 100 admit to being lawyers. The average member of the 800 sits on three corporate boards; the average member of the 100 hardly has time for his own.

Most of the 800 had been with their current company more than 22 years, putting in 15.9 years before they became CEO. Most of the INC. 100 have been with their company 12 years; since most were founders, they were CEO from Day 1.

hawking office equipment in the Minneapolis area. Today, Sheff has 1,368 employees marketing automated office systems around the world.

"Sometimes I see people walking through the halls, and I don't know whether they work for me or a competitor," he says. "We didn't envision worldwide marketing, hundreds of employees, and international manufacturing plants when we started. We've had to expand our horizons substantially. We've learned the hard way that you have to let go, hire people to do things for you, even though you have this feeling that you can do things better than anyone else.

"As you bring in more and more people, it gets harder and harder to maintain excellence, and you get closer and closer to producing average people. Average people don't accomplish anything."

The INC. *100 CEOs recognize impatience, the belief that 'I can do it faster myself—and better,' as their biggest weakness.*

More business almost always means more bureaucracy, with decisions that affect a far wider circle. Elmer R. Easton, founder of Compucorp, a $36 million computer manufacturer in Santa Monica, has expanded his payroll from 12 employees in 1976 to nearly 500. "When I travel and meet new people and realize that they're working for the company, I'm thrilled. There are people 8,000 miles away who have decided to cast their lots with us. That's a long lifeline," Easton says. But beneath his enthusiasm is the concern that "I may not be tough enough" to handle the responsibilities of evaluating, hiring, and, particularly, firing those who "cast their lots" with Compucorp.

"One of the realities of a growing business," says Easton, "is that no rule says all the individuals will grow the same way. What fit yesterday may not fit tomorrow. Sometimes you can modify the structure to fit the individual; other times you must get a different person to do the job. It's fairly rare to find a person who can stick with a company from the first dollar to the first billion dollars."

Barry Bronfin has seen Scientific Leasing grow to $11.5 million in sales, and he has seen the need for structures and systems grow accordingly. "Now we need formal personnel reviews and other corporate trappings," he says. "We need to reward people when it's appropriate. To do that, we now have forms and committees. We try to minimize it, but we still need it. You can't know 53 people personally." □

MIRROR IMAGES AND ROLE MODELS

'There just aren't that many heroes in waste utilization.'

—Konrad Ruckstuhl, SPM Group

Some 14% of the INC. 100 CEOs point to a family member as a personal hero who has inspired their career, usually a father or a grandfather. Richard Green of Data Switch Corp. found his role model in a great-uncle who left school at age nine, started his own sponge business in New York City, and ended up a multimillionaire. Greene still drives the car his great-uncle gave him 15 years ago and keeps it "as a symbol."

Frank Reed Sr. of Alaska Diversified Resources Inc. calls his wife his greatest source of inspiration. "She has influenced my career all the way along," Reed says proudly. "She's the one who has given me the most moral support."

Two of the CEOs said they saw their hero's face each morning—looking into the mirror when shaving. Twenty others said they had no heroes at all. Two mentioned Jesus Christ, "because he's a model for behavior whose teachings extend beyond business into every part of my life." Others pointed to leaders in America's largest corporations, including LTV Corp. founder Jimmy Ling, Chrysler Corp. chairman Lee Iacocca, Hewlett-Packard Co. executive vice-president Paul Ely, and Litton Industries Inc. founder Charles "Tex" Thornton.

John F. Kennedy was named "for his vision and courage"; Oklahoma humorist Will Rogers, "because he was always a gentleman"; and Generals George Patton, Stonewall Jackson, and Erwin Rommel, "because they were able to get maximum effect with minimum resources." Other names on the list included Albert Einstein, Eleanor Roosevelt, Eugene Debs, and Captain Marvel.

PARTING SHOTS

'If you sat down and logically analyzed the statistics and the probabilities in starting a new business, you probably wouldn't do it. I was too dumb to know better.'

—Richard Greene, Data Switch Corp.

"I'll give you the truth about what motivates me. Money. I mean, I love to see goals attained, sure, but I ain't going to kid you. My goal is to do what I want to do, when I want to do it. I'm working my butt off to make money."

—C. R. Michaels, Lomak Petroleum Inc.

"If you say you can build a better mousetrap, you'd better be able to deliver it. And you'd better make sure people need it."

—Barry Bronfin, Scientific Leasing Inc.

"We have no organization chart. We get consistent results without a lot of controls. Frankly, I don't know how we do it. We just work everybody's ass off."

—Franklin Bishop, Matrix Corp.

"If a public company has a hiccup, the whole world hears."

—John R. Folkerth, Shopsmith Inc.

"I've never taken a full week's vacation in my life. Twice a year I can get away for a long weekend, but then all I want to do is sleep."

—John Inda, Barton Valve Co.

"People work for money. If you want loyalty, buy a dog."

—Harold Katz, Nutri/System Inc.

"Being the CEO is like being the commanding officer of an aircraft carrier. Drive that baby over the rocks, and you're the one who hangs."

—Gary Zintgraff, Chemical Investors Inc.

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THE MAGAZINE FOR GROWING COMPANIES

Inc.

SEPT. 1983
$2.50

A Special Report

THE TAKE AT THE TOP

Ups and Downs In Executive Compensation

BEYOND THE PAYCHECK

How Growth Companies Handle Long-term Executive Compensation

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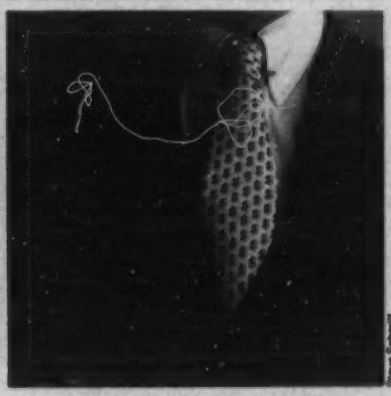
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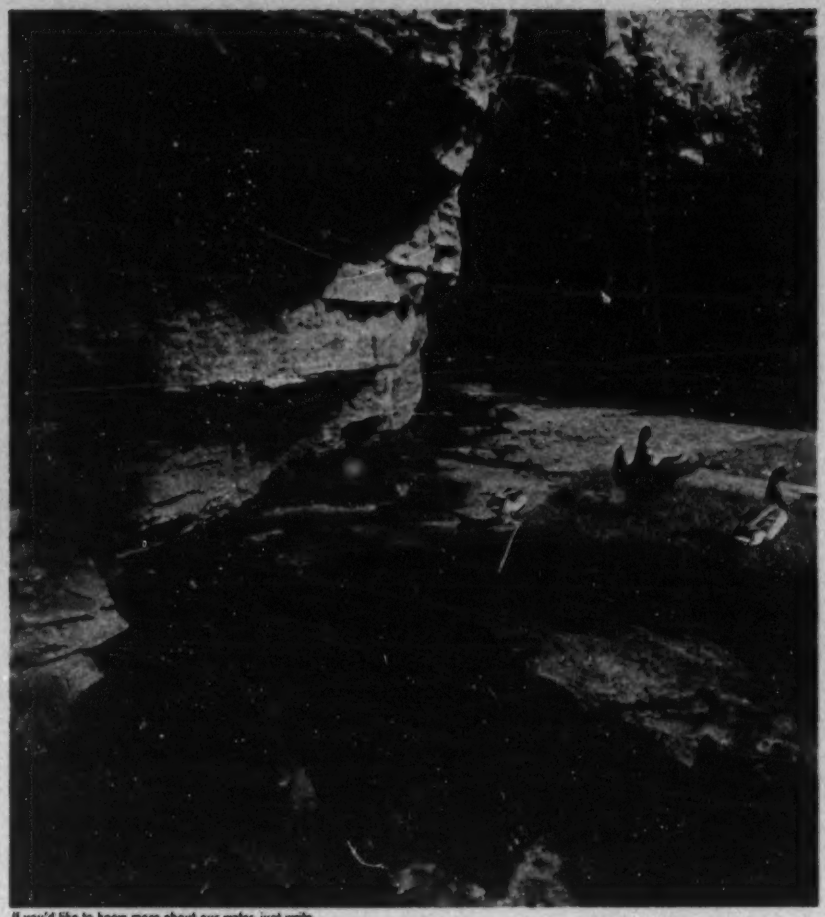

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A SLIGHT DISTURBANCE of the earth created the Jack Daniel's cave spring some 400 million years ago.

The disturbance, so say geologists, caused a crack in the surface of the earth and allowed a stream of iron-free water to spring up from underground. Luckily, Jack Daniel discovered the stream in 1866 and we've been using it to make our whiskey ever since. Today, a second movement of earth could seal off our water entirely. Which, to a Jack Daniel's drinker, would be no slight disturbance.

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Tennessee Whiskey • 90 Proof • Distilled and Bottled by Jack Daniel Distillery
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PROFILE: CHIEF EXECUTIVE OFFICER (1983 average)	
Total compensation	$76,200
Base salary	$65,500
Bonus (% of base salary)	39%
Percent receiving bonus	56%
Change in base salary 1983 vs. 1982	7.0%
Change in total compensation	4.6%
Age	47
Years in position	10
Years with company	14
Equity ownership	64%
Percent who own stock	90%

INC. Special Report

THE TAKE AT THE TOP

Some good news, and some bad, about executive compensation. First, the good news is, the average CEO is taking home $76,200. The bad news is . . .

Top executives of small and medium-size companies felt the 1982 recession where it hurts most—in their wallets. Poor business conditions prompted nearly half of them to make changes in their compensation practices in the past year, with wage freezes and cuts in pay hikes topping the list of actions taken. Among the other options chosen by these companies were cutting salaries and waiving or reducing bonuses.

Photo by Steve Schmitt

PROFILE OF THE TOP BRASS
(1983 average)

	Chief operating officer	Chief financial officer	Chief marketing officer
Total compensation	$51,500	$44,200	$47,500
Base salary	45,600	39,400	42,600
Bonus (% base salary)	27%	25%	22%
Percent receiving bonus	72%	70%	71%
Change in base salary 1983 vs. 1982	7.8%	8.8%	7.7%
Change in total compensation	7.7%	9.8%	7.1%
Age	43	41	42
Years in position	6	5	5
Years with company	9	7	7
Equity ownership	18%	19%	17%
Percent who own stock	44%	38%	34%

EXECUTIVE PERKS
(Percent of respondents)

	Chief executive officer	Chief operating officer	Chief financial officer	Chief marketing officer
Supplemental medical	66%	51%	53%	56%
Supplemental life insurance	75	55	58	59
Supplemental retirement	24	17	18	20
Deferred compensation	19	3	18	14
Company car	83	50	46	65
Annual physical	30	18	20	21
Tax and financial planning	38	18	22	19
Low/noninterest loans	30	11	13	11
Other (clubs, car expenses, etc.)	10	8	9	11

COMPANY-WIDE BENEFITS
(Percent of respondents)

Retirement	
Defined contribution	19%
Profit sharing	35
Profit sharing with 401(k)	2
Money purchase	3
Thrift/savings	3
Thrift/savings with 401(k)	1
Group insurance	
Life	81%
Medical	93
Dental	32
Short-term disability	36
Long-term disability	35
Other	
Employee stock purchase	7%

WHAT'S THE BASIS FOR EXECUTIVE BONUSES?

More and more, small and medium-size companies are setting the size of their bonus pool for chief executives in a prescribed way. Some of the factors determining the bonuses are:

Growth in earnings	33%
Totally discretionary	30
Percent of profits	26
Growth in sales	23
Straight profits	20
Return on equity	5
Return on sales	4
Return on assets	2
Return on investments	2

Total exceeds 100% because of multiple responses.

This bad news, however, is offset by the fact that, on average, small and medium-size companies expect to give executives a 9.9% pay hike within the next year (pay raises of 10% or more are predicted by 23.5% of these companies). That is what INC. and Peat, Marwick, Mitchell & Co., a leading international accounting firm, found in a survey of more than 10,000 small businesses. The findings are based on responses from 466 U.S. companies representing more than 1,000 executives.

Among the key conclusions about pay practices gleaned from the INC./Peat Marwick study are these eight points:

1. Small companies are abandoning across-the-board pay hikes in favor of merit raises and, in this way, are making better use of their salary dollars.

That, says Peter Chingos, a principal in Peat Marwick's compensation practice, puts them in step with the country's larger corporations.

2. More than ever before, small and medium-size businesses are formally evaluating employee performance.

One out of three companies reports that it has a "formal performance appraisal process" in place, and, as Chingos points out, that is a surprising but favorable trend. However, performance appraisals still haven't caught on in companies with annual revenues of less than $5 million.

3. Raises granted to small business executives in the past year (an average of 7.7%) are identical with those awarded to the people who run large corporations.

However, chief executive officers of companies with little money for pay hikes took less so they could give more to those who work for them.

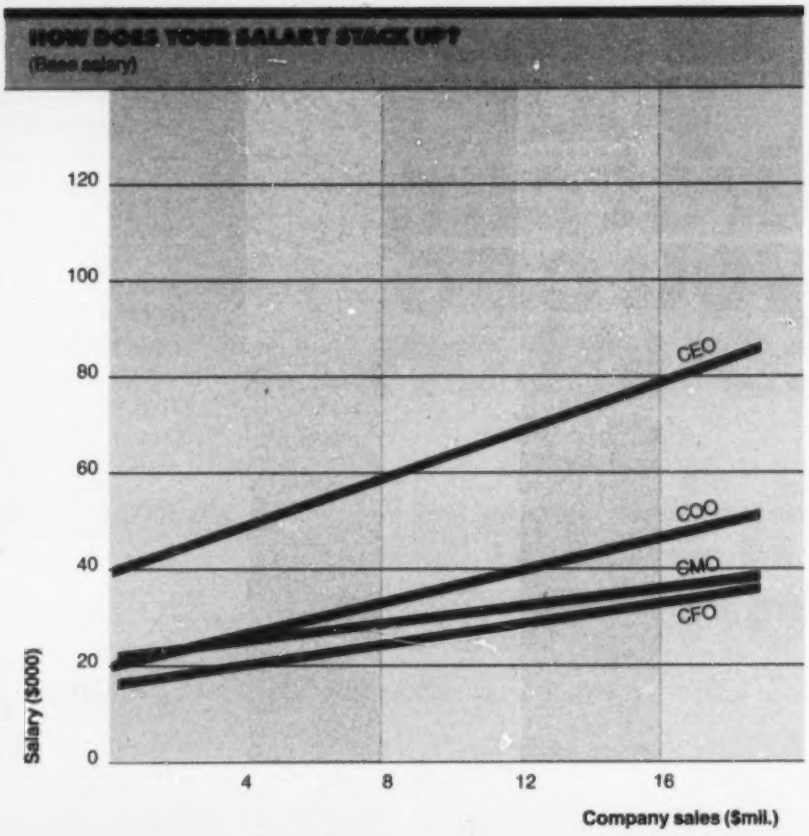
4. Another way small companies are trying to get more mileage out of their compensation programs is demonstrated in the way they are now developing their bonus plans.

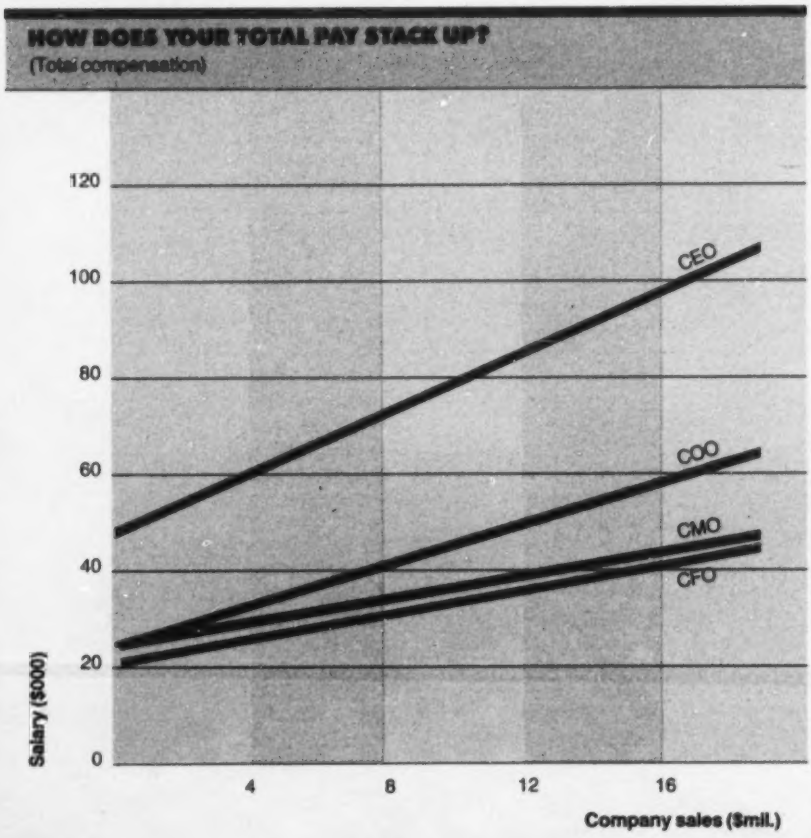
As Rose Marie Orens, a manager in Peat Marwick's executive compensation practice, points out, greater numbers of small and medium-size companies are setting the size of their bonus pool in a prescribed way. For example, 26% of the companies responding said they set bonuses by a fixed formula; 14% use a formula established annually; 11% match achievement to a business plan or budget; and 1% rely on comparisons with their peer companies. Only half of them make "discretion" an element in fixing their bonus pool.

5. Less than a quarter of small and medium-size companies provide supplemental retirement benefits or deferred compensation.

Only 24% of the chief executive officers report that they receive supplemental retirement benefits, and just 19% get deferred compensation.

6. Few small and medium-size companies provide disability insurance for employees, although generally for people under the age of 65, the incidence of





disability is higher than the incidence of death.

"Short- and long-term disability insurance is a fairly inexpensive benefit," notes Chingos. "Yet, only 36% of the companies provide short-term disability and 35% long-term disability, while 81% of the companies are providing life insurance. That is something smaller companies need to think about."

7. Small and medium-size companies that offer capital accumulation and long-term incentives remain rare.

More than 80% of the companies surveyed say they provide no capital accumulation or long-term incentives to top executives. Among those that do, the more popular choices are incentive stock options, stock purchases at book value, and stock purchases at a formula price.

8. A growing number of small and medium-size companies are providing tax and financial planning as a fringe benefit for executives.

It is expected that this benefit is provided to CEOs. The surprise is that it is now being extended to other top executives. □

The 1983 INC./Peat Marwick survey spanned a variety of industries. Manufacturers made up the largest single segment of the respondents (39%), followed by business/professional services companies at 26%. (Business/professional services is made up primarily of architectural, accounting, software, medical, and engineering firms.)

Located in all 50 states, the survey participants average slightly more than $4 million in sales. Some 31% of the businesses report annual sales of less than $1 million; 23% generate sales of $1 million to $2.49 million; 18% generate sales of $2.5 million to $4.99 million; while 28% reported sales of $5 million or more.

The information collected as a result of the INC./Peat Marwick survey is concentrated in seven general areas—executive pay: salary and bonuses; incentive practices; pay by industry; pay by region; benefits and perquisites; compensation policies; and boards of directors.

Executive pay: salary and bonuses. Chief executive officers of small and medium-size companies currently earn, on average, $76,200 annually, including a base salary of $65,500. Average total compensation for chief operating officers is $51,500, with a base salary of $45,600. For chief financial officers, the average is $44,200 annually (base salary: $39,400), and for chief marketing officers, it is $47,500 (base salary: $42,600). Pay, however, varies widely. CEOs report total compensation ranging from $12,000 to $330,000.

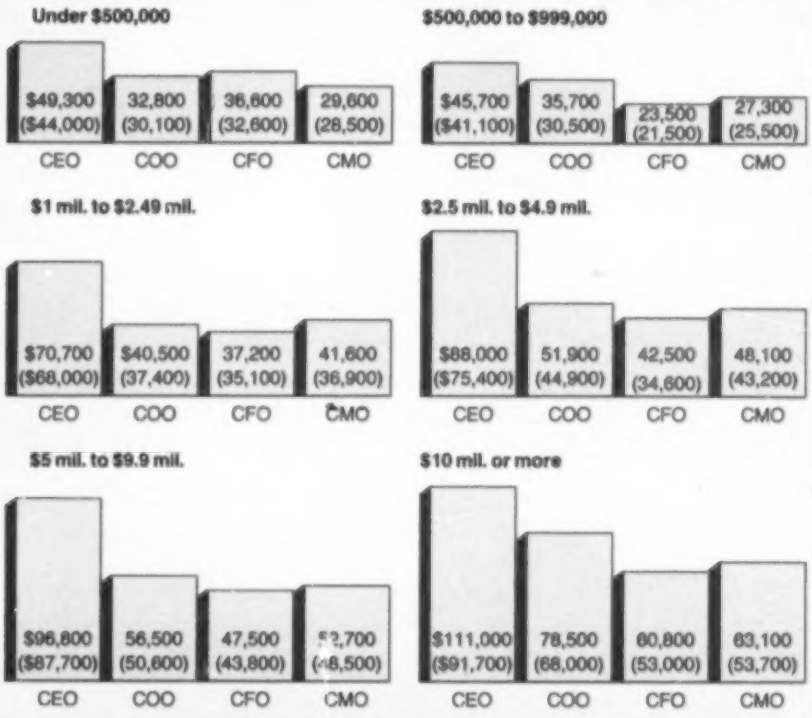
While the base salary of CEOs is up about 7% from a year ago, total compensation has climbed only 4.6%. That is because 40% of the chief executive officers received a reduced bonus or no bonus at all

Graphs designed and executed by Ellen Knox Coolidge

PAYCHECKS KEEP PACE WITH COMPANY SIZE

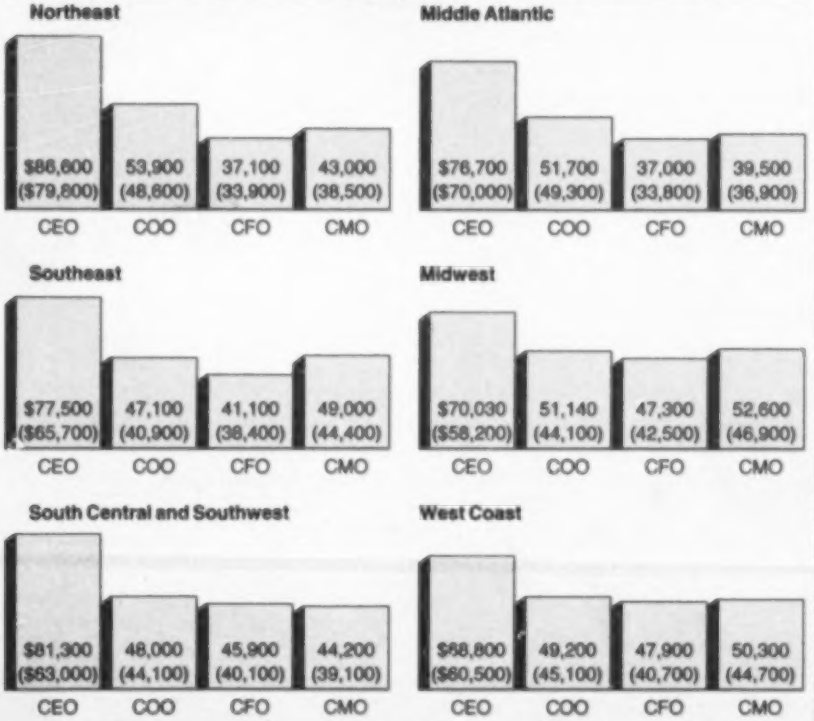
1983 average total compensation (base salary)

Sales



THE TAKE AT THE TOP BY REGION

1983 average total compensation (base salary)



in 1982. The same holds true for 30% of the chief operating officers, 24% of the chief financial officers, and 31% of the chief marketing officers. Base pay this year increased for COOs, CFOs, and CMOs by 7.8%, 8.8%, and 7.7%, respectively. Total compensation is up 7.7% for COOs, 9.8% for CFOs, and 7.1% for CMOs.

As a rule, chief operating officers earn about 68¢ for every dollar paid to a chief executive officer. For chief financial officers, the figure is 58¢, and, for chief marketing officers, it is 62¢.

The level of executive salaries is proportionate to the number of employees. For CEOs, average total pay, based on the number of employees, is $124,000 (150 or more employees), $93,500 (100 to 149 employees), $74,600 (50 to 99 employees), $79,300 (25 to 49 employees), and $63,900 (less than 25 employees).

This year's compensation study also shows that the CEOs of the oldest and newest companies tend to pay themselves less than individuals who head companies that have been in business 10 to 20 years. For example, the average pay for chief executives of companies founded before 1930 is $68,600 and for CEOs of companies established between 1980 and 1983, it is $72,200. That compares with $75,500 for chief executives of companies started between 1975 and 1979, and $80,000 for CEOs of corporations founded between 1965 and 1974. The highest paid chief executives ($82,600) work for companies established between 1950 and 1964.

Incentive practices. The study sought data on bonuses earned in 1982 and paid in 1983. The results show that CEOs of small and medium-size companies receive, on average, a bonus equal to 39% of their base pay. The average bonus received in 1982 by COOs is 27%, by CFOs, 25%, and by CMOs, 22%.

Nearly all of the businesses responding to the survey (88%) indicated that they were bonus-paying companies. However, the basis for granting executive bonuses varies widely. The most popular is growth in earnings (33% of respondents), followed by growth in sales (23%), profit percentages (26%), and straight profits (20%). Others include return on equity (5%), return on sales (4%), return on assets (2%), and return on investments (2%).

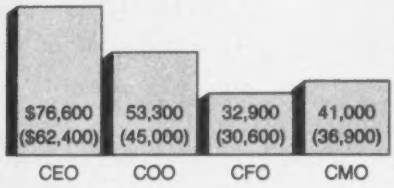
Pay by industry. The highest paid chief executives work for nondurable manufacturing companies with sales of $15 million or more annually. These managers take home an average total compensation of $128,000, including a base salary of $96,000. CEOs of durable manufacturing companies with sales of $15 million plus are a close second. With base pay of $101,000 annually, their total compensation is $121,000. Third from the top in pay are CEOs of high-technology concerns reporting annual revenues of $15 million or more. Their average base salary is

Bar graphs on pages 98 and 100 designed by Ellen Knox Coolidge

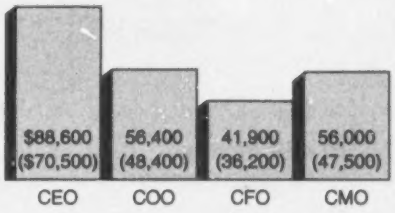
THE TAKE AT THE TOP BY INDUSTRY
1983 average total compensation (base salary)

Sales

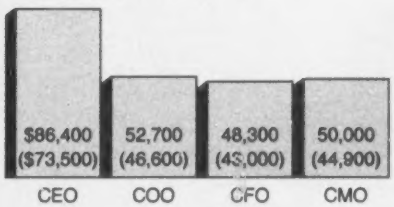
Construction
(Average sales: $4.6 mil.)



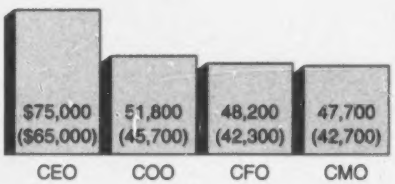
Nondurable manufacturing
(Average sales: $5.2 mil.)



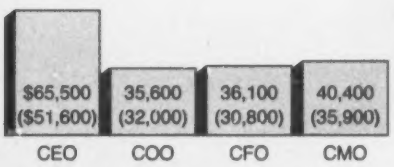
Durable manufacturing
(Average sales: $4.6 mil.)



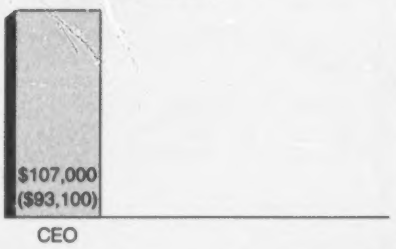
Wholesale trade
(Average sales: $5.9 mil.)



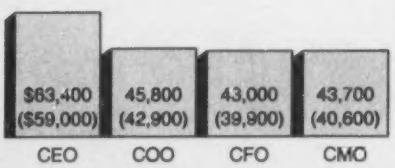
Retail trade
(Average sales: $2.4 mil.)



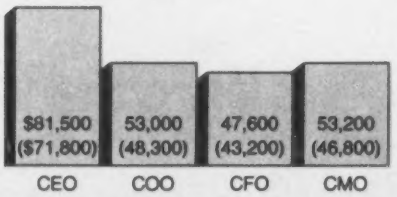
Financial services
(Average sales: $1.9 mil.)



Service companies
(Average sales: $2.5 mil.)



High technology
(Average sales: $4.6 mil.)



$100,000, with total compensation amounting to $118,000.

Pay is worst among wholesalers. Average earnings for a CEO of a wholesale company with annual sales of $5 million is about $72,000. That compares to $81,000 for a retailer and $95,000 for a nondurable manufacturing company with the same revenues.

Pay by location. The surprise here is that executives on the West Coast earn less than their counterparts elsewhere in the country. CEO average total compensation, by region: Northeast, $86,600; South Central and Southwest, $81,300; Southeast, $77,500; Middle Atlantic, $76,700; Midwest $70,030; and the West Coast, $68,800. The latter includes the states of Washington and Oregon, where salaries do not match the go-go levels of California.

Benefits and perquisites. Not surprisingly, health and life insurance remain the most popular benefits among small and medium-size companies. Among the more popular perks are company cars (83% of the chief executives have one), supplemental life insurance, and supplemental medical insurance. Tax and financial planning emerges as a new twist in the fringe benefits packages of smaller companies: 38% of the CEOs, 18% of the COOs, 22% of the CFOs, and 19% of the CMOs now receive this added fringe benefit.

Oddly enough, supplemental retirement and deferred compensation programs are scarce. Just 24% of the CEOs, 17% of the COOs, 18% of the CFOs, and 20% of the CMOs receive some sort of supplemental retirement benefit. The figures for those who earned deferred compensation are even lower — 19% of the CEOs, 3% of the COOs, 18% of the CFOs, and 14% of the CMOs.

As might be expected, the largest companies provide the greatest number of perks. For example, annual physical examinations are 50% more prevalent among companies whose sales top $1 million than those with sales of less than $1 million. And the incidence of supplemental retirement is nearly twice as prevalent in companies with more than $5 million in sales than those under $1 million.

Compensation policies. Only 21% of the companies report that they have a "formal statement of compensation philosophy" and a mere 19% have salary ranges in place. Of those with salary ranges, 38% of them have annual sales of more than $5 million.

In general, most companies (67%) review salaries annually, although 10% do so semiannually and 22% report no fixed timetable. Formal performance appraisals are in place at 34% of the companies surveyed. The types of performance appraisals vary from company to company. "They run the gamut," says Orens of Peat Marwick, "from sitting down with employees and simply rating them 'below average,' 'average,' or 'above average' to systems

WHAT'S AHEAD FOR EXECUTIVE PAY

Of the companies surveyed, 35% say they are taking steps to improve executive compensation. Among one or more options, here is what they plan:

Generous salary increases	41.5%
Additional benefits, perquisites	32.4
New annual incentive plan	27.5
Special recognition awards	12.0
New long-term incentive plan	10.6

Among the small and medium-size companies surveyed, the outlook for pay raises for chief executives stacks up this way:

5% or less	22.0%
5% to 10%	55.0
10% to 20%	18.5
More than 20%	5.0
Average increase	9.9%

DIRECTORS: HOW MANY, HOW MUCH?

	Average	Range
Number of board members	4	1–14
Number of "outside" members	2	1– 9
Number of board meetings per year	4	1–25
Number of committee meetings per year	9	1–25
Compensation		
Fixed annual retainer	$2,258	$50 –$6,000
Fee per board meeting	342	50 – 2,500
Fee per committee meeting	300	50 – 500
Expenses incurred	–	50 – 5,000

THE FACTS BEHIND THE FIGURES

This report represents an executive compensation study conducted by INC. and Peat, Marwick, Mitchell & Co. It summarizes a national survey of executive pay levels and policies in a broad cross-section of smaller businesses. The data focuses on four top management functions: chief executive officer, chief operating or manufacturing officer, chief financial officer, and chief marketing officer.

The primary research for the report was conducted in June. A seven-page questionnaire was mailed to a random sampling of 10,888 INC. subscribers. Excluding undeliverable, incomplete, and late returns (those received beyond the June 24 deadline), the net response rate was 4.4%. Some 466 returns were then delivered to Peat Marwick headquarters in New York for computerized tabulation and cross-reference summaries.

Confidentiality of all information was assured. No company or individual respondent was identified. The responses represent 466 companies that provided compensation data on a total of 1,082 executives. They are located in 50 states and the District of Columbia, with 26% headquartered in the Northeast, 26% in the South, 31% in the Midwest, and 17% on the West Coast.

Separated into eight broad industry categories, 26% of the respondents are in business services, followed by 24% in durable manufacturing and 15% in nondurable manufacturing. Other major groups include wholesalers (11%), retailers (9%), construction (7%), and financial services (4%). Classified by size, 90% of the responding companies generate sales of less than $10 million, with 31% under $1 million and 41% ranging from $1 million to $5 million. Ninety-six percent are corporations; the remaining 4% are evenly divided between proprietorships and partnerships. Only 2% are publicly held.

The vital statistics of the respondents as a group include the following averages:

Net sales	$4,029,000
Net income (after tax)	$ 168,000
Total 1982 payroll	$ 987,900
Number of employees	48

While this report represents INC.'s fifth annual compensation survey, it marks the first INC./Peat Marwick Executive Compensation Study. Coordinating the project were INC. senior editor Bradford W. Ketchum Jr. and senior writer Donna Sammons. Technical analysis and interpretation were provided by Peat Marwick's Peter T. Chingos and Rose Marie Orens. Chingos is a principal responsible for executive compensation and personnel practice, and Orens is a manager specializing in executive compensation.

HOW "COMP" CHANGED TO COPE WITH THE RECESSION

Of the companies surveyed, 46.7% say they made changes in executive compensation because of the recession. The options they chose include:

Reduced salary increases	33.3%
Froze salaries	31.8
Set tougher performance standards	24.6
Reduced bonuses	22.4
Waived bonuses	18.0
Consolidated responsibilities	16.9
Cut salaries	15.8
Froze hiring	10.9
Cut benefits, perquisites	7.7
Laid off managers	7.7

Total exceeds 100% because of multiple responses.

that use numerical ratings to those that identify specific individual objectives." One company takes the unusual approach of allowing its workers to identify the areas on which they would like to be evaluated.

Board composition and director fees. Companies responding to the survey have 1 to 14 people on their boards of directors. The average is four directors, two of whom are outsiders. The average number of board meetings per year is 4, although one company reports it has 25.

On average, board members receive a retainer of $2,258 (the annual fees range from $50 to $6,000), with an average fee per board meeting of $342. The average fee per audit or executive committee meeting is $300 (range: $50 to $500). □

The 1983 INC./Peat Marwick compensation study also analyzed expected sales and earnings growth in the year ahead. Small and medium-size businesses are optimistic about their futures: 67% of the companies say they expect profits to climb; 27% believe earnings will stay the same; and 6% think profitability will drop.

The outlook is even more positive in terms of sales: 8% of the 400 companies responding report that they anticipate sales to grow by more than 100% in the next year; 10% expect revenues to climb by more than 35%; 35% foresee a sales gain of 10% to 25%; and 27% expect sales growth of up to 10%. Just 20% of the companies think that revenues will stay the same or will decline.

Lastly, the INC./Peat Marwick survey examined small business's concerns about compensation. The study found that top executives of small and medium-size companies worry most about determining how much each job is worth. Second on their list of concerns is establishing equitable personnel policies, and third is obtaining competitive compensation information. The least of their worries, they say, is determining benefits costs. □

BEYOND THE PAYCHECK: COMPENSATING FOR GROWTH

All but three of America's 100 fastest-growing public companies offer long-term incentive compensation to executives. Stock options are the norm, with a few twists that include "junior" stock, discount options, and restricted stock purchases.

By George B. Paulin and Cathy J. Raphael

What are the current long-term incentive pay practices among smaller growth companies? Are tax-favored incentive stock options (ISOs) widely used? What alternative approaches are used to obtain favorable capital gains tax treatment or to achieve other company objectives?

To answer these questions, we analyzed long-term incentive practices for the 1983 INC. 100—INC.'s list of the fastest-growing publicly held companies in the United States (see INC., May, page 51). We then compared them with *Fortune*'s Top 200 industrials for a look at the differences between emerging growth companies and mature corporate giants. Information for the analyses was drawn from proxy statements, annual reports, and telephone interviews with company executives. While the research focused only on public companies, certain practices—including ISOs and restricted stock arrangments—can be adapted easily to private companies.

Stock options offer several attractive characteristics to growth companies, so it isn't surprising that 95 of the INC. 100 make options available to their top managers. First, payouts are potentially unlimited—a significant point for entrepreneurs who don't respond well to circumscribed pay arrangements. As the chief executive officer of one company explains, "With annual incentives, all I can tell my top people is that they'll get 25% of salary for making plan and maybe 50% if they have a great year; with options, it can go from zero to the moon." Second, under current accounting rules, options granted at 100% of market value have no impact on the income statement. In other words, companies can deliver compensation through options without charges to earnings. The significance of this point to companies striving for earnings growth is obvious. And third, ISOs give executives an opportunity for capital gains tax treatment.

ISOs are part of the executive pay package in 83 of the 100 companies, including 45 with provisions for ISOs and nonqualified options and 38 with provisions for ISOs alone. Twelve companies have only nonqualified option provisions. Among companies that offer both types, the nonqualified options are generally used to make individual grants above the ISO limit of $100,000 (plus unused carryovers) per calendar year. Also, these companies can make nonqualified grants if stock prices fall and later ISOs are "blocked" because of the sequential-exercise rule.

> One factor affecting long-term incentive practices is whether current accounting rules for stock options remain in effect.

This rule provides for ISOs to be blocked if they were granted at $25 a share in Year 1 and at $20 a share in Year 2, when employees would be required to exercise the earlier, higher-priced options before the later, more attractive, lower-priced options. In this case, a company with both types of options might decide in Year 2 to grant nonqualified options that could be exercised regardless of other grants outstanding. Note, however, that if the grant were less than 100% of market value, there would be impact on the income statement.

The fact that some companies grant both ISOs and nonqualified options while some grant only one or the other reflects the controversy over trade-offs between the two types of stock options. On one hand, with ISOs, executives have an opportunity for tax deferral when the option is exercised, and all appreciation above the initial grant price is treated as a long-term capital gain when shares are ultimately sold. On the other hand, with nonqualified options, executives realize taxable income at exercise for any value above the initial grant price and potential capital gains only on any incremental appreciation between exercise and sale.

With nonqualified options, however, a company can deduct an amount equal to the income recognized by executives at exercise, while there is no company deduction with ISOs. This produces an equation favoring the Internal Revenue Service: A company would be foregoing up to a 46% tax deduction (any state tax deduction would be additional) to improve the executives' tax position by as much as 30% (the difference between the maximum individual income tax rate and the maximum capital gains rate; a slightly higher percentage would result if any applicable state taxes were considered).

Assume, for example, that corporate and individual income tax rates are both 50%. A company could grant twice as many nonqualified options as ISOs without increasing its costs, because the tax savings would be available to repurchase half of the shares represented by the option gain. At the same time, a company could provide equivalent aftertax benefits to executives without increasing its costs, by granting only 60% more nonqualified options than ISOs. The decision to grant ISOs is not based entirely on employee tax or company cost considerations. Other factors include the highly competitive market for outstanding executives in growth industries, where the use of ISOs is prevalent, and the greater likelihood of long-term stock ownership that comes from eliminating the need for executives to sell shares to pay taxes at exercise.

ISOs may also be used by private companies, with the option price equal to market value, which may be closely approximated by book value per share or a formula price, e.g., a multiple of earnings. There is a rule that ISOs may not be given to anyone own-

LONG-TERM INCENTIVES: WHAT FAST-GROWTH COMPANIES GRANT* (1982)

■ New plan
▭ Continuing plan

INC. 100 rank		Incentive stock options	Nonqualified options	Stock purchases	SARs	Misc. (see key)
1	BRAE	■				
2	Altos Computer Systems	■	▭			A
3	Pizza Time Theatre					
4	ISC Systems	■				
5	Apple Computer					
6	Bio-Medical Sciences					
7	Electro-Biology		▭			
8	Mid-America Petroleum					
9	Teleco Oilfield Services					B
10	Movie Systems					
11	ASK Computer Systems			▭		C
12	Tandon					D
13	Biochem International			▭		D
14	Energy Conversion Devices					
15	Micom Systems	■				
16	Genentech			▭		E
17	Consul	■	▭			
18	Chemical Investors					
19	Crime Control					
20	Lexidata		■			F
21	Oxygen Enrichment	■				
22	Flare		▭			
23	Medical Graphics					
24	Healthdyne					
25	Data Switch					
26	Nutri/System	■	▭			
27	Comair	■				
28	KLA Instruments		▭			
29	Nuclear Support Services					
30	NBI		▭			
31	Vector Graphic	■	▭	■		D
32	Ryan's Family Steak Houses					
33	Nugget Oil		▭		▭	
34	Texas Energies	■	▭			
35	SPM Group		▭			G
36	LTX					
37	Heritage Communications		▭			
38	Intertec Data Systems		▭			
39	United States Health Care Systems	■				
40	Jefferson-Williams Energy				▭	
41	Swanton	■	▭			
42	M.D.C.					H
43	Cetus		▭			
44	Godfather's Pizza	■				
45	Reeves Communications		▭			
46	Tandem Computers					I
47	Nelson Research & Development		▭			B
48	Seneca Oil		▭		▭	
49	Gold C Enterprises		▭			
50	Gulf Energy		▭	▭		D

KEY: A-NQO individual grant; B-discount options; C-loans for restricted share purchases; D-purchase shares restricted; E-junior stock; F-NQO shares restricted; G-granted at 20% above fair market value; H-no plan, individual grants; I-loan provisions; J-convertible debentures, NQO individual grants; K-loans for share purchases; L-NQO plan terminated; M-NQO tax-offset provision; N-junior grant

*Incentives are considered to be long term if payments are determined by stock market and/or company results over a period greater than one year. Annual incentives with deferred cash or stock payments are not included, nor are qualified capital accumulation plans (profit sharing, thrift, savings, etc.) available to all employees.

ing more than 10% of the company. Otherwise, the only difference from ISOs in public companies is that shares normally must be resold to the company. Executives at private companies are entitled to the same favorable capital gains treatment at the time such resale occurs.

Beyond the standard stock options, analysis of the INC. 100 reveals a new wrinkle in executive pay plans commonly called "junior" stock. In 1982, only three of the companies offered it. However, look for greater use of this long-term incentive, particularly among growth companies that have created wealth for founders and seek to offer capital gains opportunities to second-generation executives.

Under this arrangement, a company creates a new class of stock to be sold or granted only to its employees, with voting, dividend, and liquidation rights subordinate to those of its primary common stock. Such junior stock is valued below the common, based on an investment banker's determination of an appropriate discount. The amount of the discount reflects a number of factors, including the likelihood of subsequent conversion to common stock; dividends, if any, compared to those paid on common stock; the company's creditworthiness; and the volatility of the company's common stock price.

Junior stock is typically subject to transfer restrictions for a specified number of years and is convertible to common if specified objectives are achieved. Conversions may occur before or after the restrictions lapse. Under Genentech's 1982 plan, for example, junior stock converts to common when the company has realized (a) aftertax income of at least $20 million in four consecutive quarters, or (b) aftertax income, when divided by the average number of annual common shares outstanding, of at least $2 per share for four consecutive quarters. Conversion in other cases, as in North American Watch's plan, can be based on the employees' continued employment for a specified period.

From the company's standpoint, one advantage of such plans is the ability to add a performance element that focuses on strategic internal goals, an element otherwise absent from plans in which payments are based solely on results in the stock market. Another advantage is the value obtained by linking conversion and/or the lifting of transfer restrictions to continued employment. There are also no charges to the income statement unless the junior shares are granted at less than fair market value. From the executives' standpoint, there are potential capital gains opportunities with relatively low risk, because they have paid far less for the shares than if they had purchased common stock or exercised an option to purchase common stock.

Assuming that executives elect to be taxed at the time of purchasing junior stock, and because no tax should be due upon conversion, the entire gain above the

purchase price should be eligible for capital gains tax treatment when the shares are sold. (As yet, no IRS rulings have been issued to confirm these points.) Executives are likely to make such elections, because, as a result of paying the full value of the shares, they would in fact owe no taxes at purchase. So, there wouldn't be a risk of having made unnecessary tax payments if the shares were subsequently forfeited.

Among other interesting approaches, five companies permit nonqualified options to be granted with a purchase price less than 100% of market price. Such discount options can be attractive. They combine an up-front gain and a long-term call on stock-price appreciation. But companies might be deterred from using these options, because the discount is treated as an income statement expense that must be charged in the period between the grant date and the anticipated option-exercise date. Moreover, executives must pay income tax on the discount (and on any gains following the grant) at exercise.

Restricted stock-purchase plans are used by nine of the INC. 100 companies. With them, executives may purchase at a discount, or may receive outright grants of, shares that are subject to transfer restrictions until earned out. These plans have the same income-statement consequences to the company as discount options. However, compared with discount options, they offer advantages to both the company and the executives. For the company, the primary advantage is the retention of valued executives which is achieved by linking the restrictions to continued employment. For executives, there is an opportunity for capital gains, resulting from the ability to elect to be taxed at the time of purchase on the discount element, with any subsequent gains eligible for capital gains treatment.

Restricted purchase plans may be adapted for use by private companies, with a book value or a formula-value purchase price. Executives of private companies are eligible for the same up-front tax election and consequent capital gains opportunity available to executives of public companies. Shares must be resold to the company at then-current book value or formula-value price.

Comparison of long-term incentives provided by the INC. 100 companies and those available at the 200 largest industrials reveals two notable differences. First, all of the plans among the INC. 100 are market-based, while more than half of the Top 200 can grant long-term incentives based on nonmarket goals or formulas. Second, only 10% of the INC. 100 have provisions for nonstock grants, compared with about 85% of the Top 200.

Nonmarket approaches among the 200 industrials generally base payments to executives on performance, measured against strategic goals over a specified period. These awards are often granted in com-

LONG-TERM INCENTIVES: WHAT FAST-GROWTH COMPANIES GRANT* (1982)

■ New plan
▭ Continuing plan

INC. 100 rank		Incentive stock options	Nonqualified options	Stock purchases	SARs	Misc. (see key)
51	Key Pharmaceuticals					
52	Lomak Petroleum				▭	
53	Oxoco	■	▭			J
54	Quality Systems		▭			
55	Machine Technology		▭			
56	Dietrich Resources					
57	Monument Energy	■	▭			
58	Shopsmith		▭			
59	Phoenix American	■	▭			
60	AM Cable TV Industries	■	▭			
61	St. Jude Medical	■	▭			
62	Miller Technology & Communications		▭			
63	Health Extension Services		▭			
64	Nuclear Pharmacy		▭			I
65	Compucorp		▭			
66	Sykes Datatronics		▭			B
68	Dysan		▭	■		E
69	Hadson Petroleum		▭			K
70	Barton Valve		▭			B
71	Sea Galley Stores		▭			
72	Service Fracturing	■	▭			
73	C. P. Rehab		▭			
74	Cray Research	■	▭			
75	Pengo Industries	■	▭			
76	Trans-Western Exploration		▭			
77	Intergraph	■				
78	Scientific Leasing	■	■			
79	CACI					L
80	Plasma-Therm		▭			
81	Hadron		▭			H
82	BSN	■				
83	CPT		▭			M
84	Liz Claiborne		▭		▭	
85	Matrix		▭			
86	Cipher Data Products	■	▭			
87	International Game Technology		▭			
88	Alaska Diversified Resources	■	▭			
89	Immuno Nuclear		▭			
90	ADAC Laboratories		▭			
91	Ventrex Laboratories		▭			
92	C3	■				
93	Ferrofluidics		▭			
94	Computer Associates International		▭			
95	North American Watch		▭			N
96	Diagnostic/Retrieval Systems	■	▭			
97	Cullinet Software		▭			I
98	Cable TV Industries		▭			
99	Xonics	■	▭			B,I
100	Intelligent Systems		▭		■	
101	Comserv		▭			

KEY: A-NQO individual grant; B-discount options; C-loans for restricted share purchases; D-purchase shares restricted; E-junior stock; F-NQO shares restricted; G-granted at 20% above fair market value; H-no plan, individual grants; I-loan provisions; J-convertible debentures, NQO individual grants; K-loans for share purchases; L-NQO plan terminated; M-NQO tax-offset provision; N-junior grant

*Incentives are considered to be long term if payments are determined by stock market and/or company results over a period greater than one year. Annual incentives with deferred cash or stock payments are not included, nor are qualified capital accumulation plans (profit sharing, thrift, savings, etc.) available to all employees.

NOTE: Comserv (No. 101) has been substituted for Victor Kellering (INC. 100 rank No. 67), which does not file disclosure documents with the Securities and Exchange Commission.

INCENTIVE STOCK OPTIONS BECOME THE STANDARD

Type of long-term compensation	Definition	No. of INC. 100 companies	
Investment			
Incentive stock options (ISOs)	Rights to purchase company stock at a set price over period not to exceed 10 years; price must equal 100% of fair market value at grant with optionee limited to $100,000 (plus unused carryovers) per year in aggregate exercise cost; must be exercised in order of grant; capital gains at sale if acquired shares held at least 1 year after exercise and 2 years after grant.	New plan (1982)	29
		Continuing plan	54
		Total	**83**
Nonqualified stock options (NQOs)	Rights to purchase company stock at a set price over a stated period, often years; typically, price is 100% of market value at grant, but can be less. Gain at exercise is taxable income.	New plan (1982)	2
		Continuing plan	55
		Total	**57**
Stock purchases	Short-term rights to purchase company stock, typically at a discount from market value and/or with financing assistance from the company. Shares may be subject to transfer restrictions.	New plan (1982)	2
		Continuing plan	7
		Total	**9**
Noninvestment			
Stock appreciation rights (SARs)	Rights to receive in stock and/or cash appreciation the gain in market value of specified number of shares since grant, typically granted in conjunction with stock options.	New plan (1982)	1
		Continuing plan	8
		Total	**9**
Stock grants (restricted stock)	Grants of stock, typically subject to transfer restrictions and risk of forfeiture until earned by continued employment with the company.	New plan (1982)	–
		Continuing plan	1
		Total	**1**

bination with stock options, thus providing incentive alternatives in case a company's stock price doesn't match its performance and potentially providing cash or stock that can be used to exercise options. There are several reasons, however, why growth companies wouldn't adopt performance-based grants. First, unlike stock options, there are potential charges to earnings. Another reason is the difficulty of establishing long-term internal financial goals in a period when the company must respond to the pressures of rapidly increasing sales and evolving technologies. Furthermore, payments under performance-based grants are usually limited to avoid open-ended earnings charges.

Even within the realm of market-based incentive plans, practices of the INC. 100 companies and Top 200 industrials differ greatly. The prevalence of noninvestment grants among the Top 200 is largely attributable to their greater use of stock-appreciation rights. Only 9% of the INC. 100 companies have provisions for SARs, compared with 80% of the Top 200. Potential income charges are probably the major deterrent to the use of SARs among growth companies. Also, since a favorable IRS ruling in 1980, companies have let executives pay for option shares with already-owned company shares, reducing the incentive for companies to establish new SAR programs as a means of providing option financing assistance. ISOs, introduced in 1981, also have reduced the impetus for using SARs. Because SAR gains are taxed at income rates, their exercise in lieu of a related ISO results in the loss of capital gains opportunities. Many of the INC. 100 established their programs after the impetus for the use of SARs had diminished.

There is also a difference in the area of noninvestment grants: Only one INC. 100 company—North American Watch—provides outright grants of restricted stock, compared with about 25% of the Top 200. The belief that executives should be required to invest in the enterprise is consistent with an entrepreneurial pay philosophy and might, at least partly, explain this difference. Another factor is that growth companies see options alone as being attractive enough to retain executives.

Several factors will influence future long-term incentive practices at growth companies. Most significant is whether or not current accounting rules for stock options remain in effect. The Financial Accounting Standards Board is reviewing stock-related employee compensation rules. A major issue to be resolved is the inconsistency between accounting for stock options and for other long-term incentives. While the review won't be completed for at least three years, one possible outcome is the issuance of new standards requiring some form of earnings charge for options. If this occurs, options would be far less attractive to growth companies.

The differential between income and capital gains tax rates is another major factor affecting long-term incentive design. In 1981, this differential was expanded when the amount of capital gains excluded from taxes was increased from 50% to 60%. There has been talk in Congress about a uniform, or single, tax-rate structure that would cover income and capital gains. But, at least for now, this is not a hot issue, and the existing differential appears secure. As long as there is a relatively wide differential between the tax rates, companies will continue to seek and develop approaches that provide capital gains opportunities. These opportunities are now available through ISOs, junior stock, and various uses of restricted stock.

A third factor is stock market trends and, in particular, the question of what will follow the upturn in prices of the past year. If there is a prolonged bear market, growth companies could decide that potential market-based gains alone are inadequate. In this case, more companies might offer their executives discount options or purchases, or even stock grants. Junior stock arrangements also might become popular as a way to generate tax-favored gains through the conversion of junior shares to common. But it is unlikely, even in a down market, that many growth companies would turn to performance-based plans, because of the difficulty in setting long-term financial objectives.

If, on the other hand, the market sustains its upward momentum, the popularity of ISOs among growth companies will continue, with new wrinkles evolving. Companies might shorten vesting periods, while subjecting exercised option shares to transfer restrictions, in order to maintain the retention value formerly provided by the longer vesting periods.

Regardless of what happens to accounting rules, tax policies, and the stock market, however, it is clear that growth companies will continue to rely on stock-related, long-term incentives. Why? It goes beyond the paycheck. Entrepreneurial executives want a chance to participate in company ownership. And, most companies in their high-growth stages prefer to compensate in stock as a way of conserving cash and balancing the shorter-term focus of annual incentives. □

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THE MAGAZINE FOR GROWING COMPANIES

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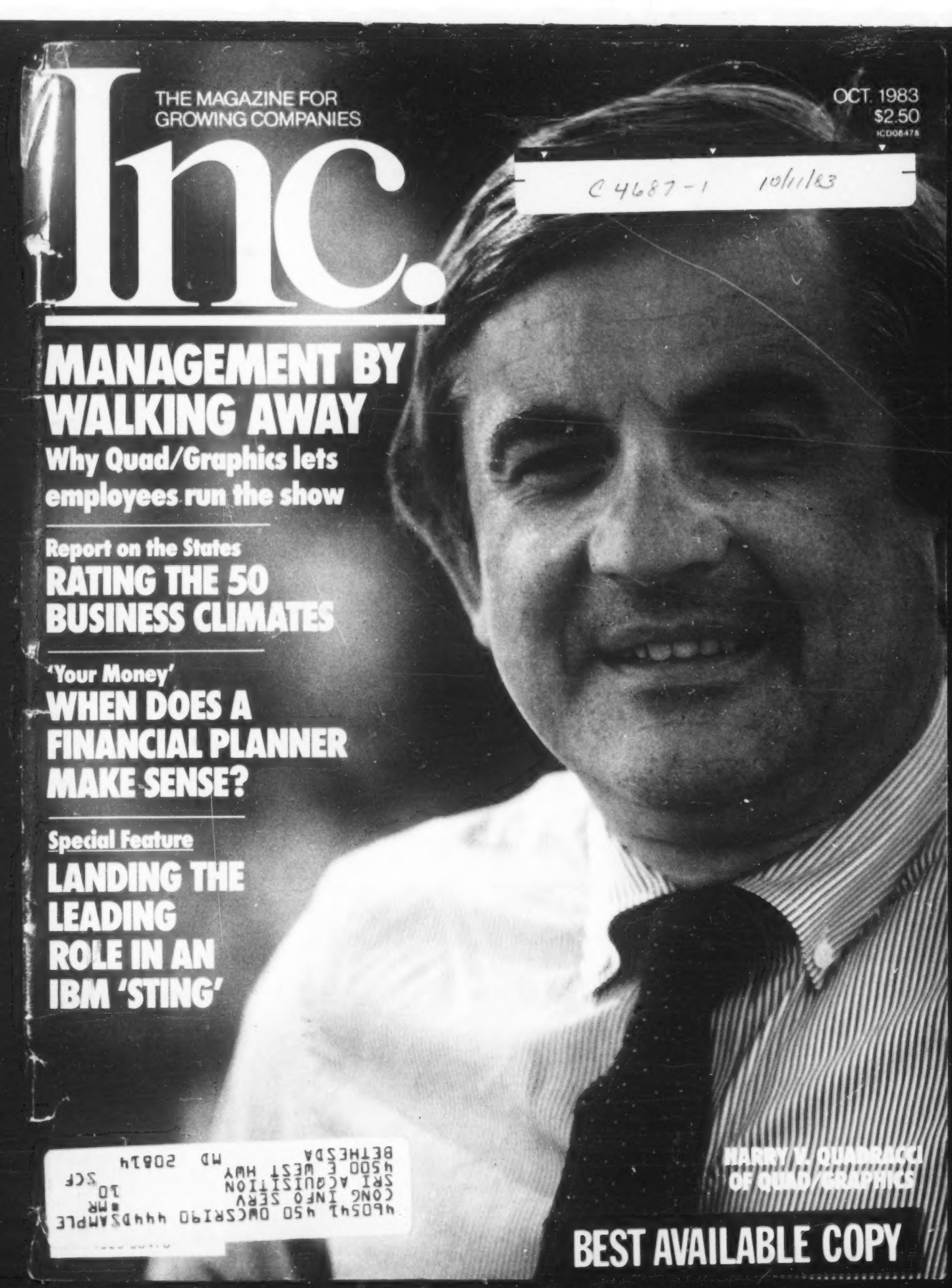

HARRY V. QUADRACCI OF QUAD/GRAPHICS

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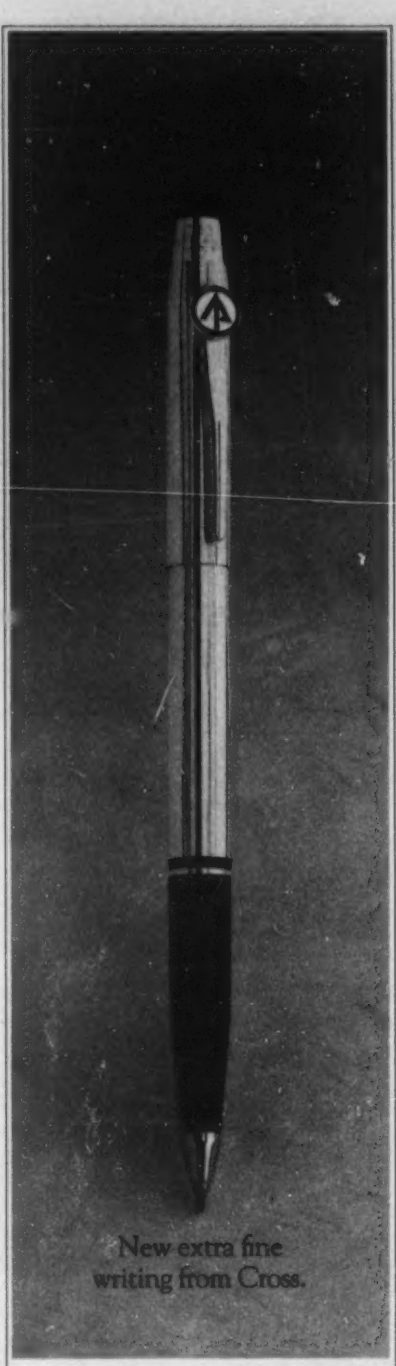
Cover photo
Arnold Zann/Black Star



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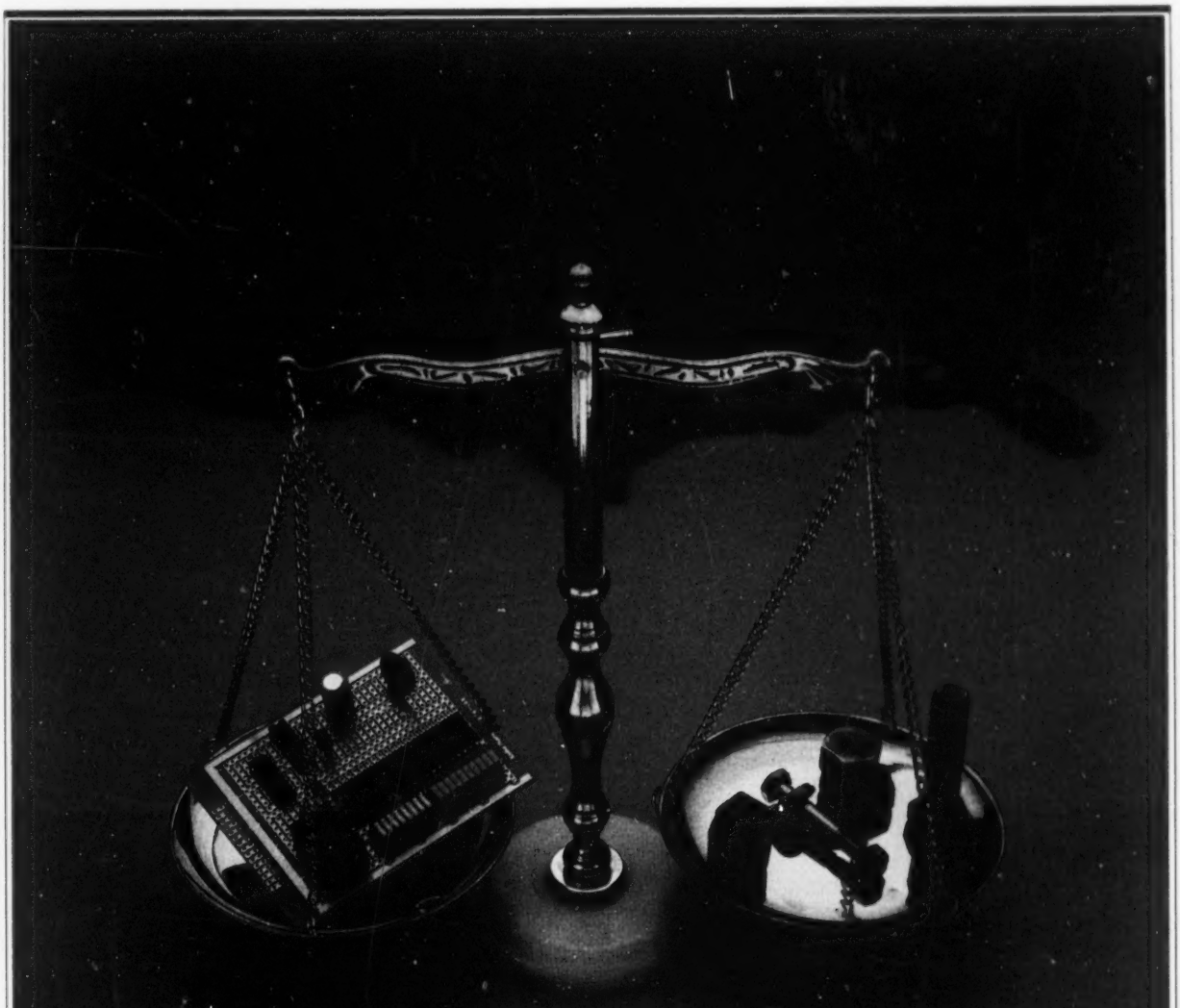


INC.'s Third Annual

REPORT ON THE STATES

The year 1983 has been a hard one to quantify. Soaring deficits, rampant unemployment, and bare-knuckled competition for new industry have taxed the resources—and occasionally the wisdom—of governors from Tallahassee to Honolulu. In our Third Annual States Report, INC. once again ranks the states from 1 to 50 on factors that are critical to small businesses. But statistics don't tell the whole story. In the pages that follow, INC. looks at some of the most intriguing manifestations of how states are scrambling for economic growth: Rhode Island (see page 151), a little state with big plans; Austin, Tex. (see page 155), the smart little city with a coveted, new high-tech start-up; and a host of other instances (see page 160) in which local officials have been overzealous in their development efforts. When all is said and done, the already intense competition for jobs and investments is clearly heating up.

By Bruce G. Posner

Photography by Steve Schmitt

RATING THE STATES BASED ON FIVE MAJOR FACTORS

	CAPITAL RESOURCES				LABOR				TAXES
Rank/state	Bank loans % assets	Comm./ind. loans per capita	SBIC finan. per 1,000 pop.	State programs[1]	Avg. wkly. wage	% union	% H.S. grads. over 25	Value added per worker ($000./yr.)	Per $1,000 personal income
Median	51.6%	$1,078	$.80	–	$331	23%	68%	$36.9	$109
1. Texas	54.1%	$ 2,979	$3.6	DL	$348	11%	61%	$45.1	$100
2. California	62.3	3,246	3.4	DL,LG	367	27	74	38.7	115
3. Colorado	57.5	1,377	3.9	DL	336	18	78	35.5	102
4. New York	58.9	11,454	3.0	DL,LG,BG	325	39	66	37.6	158
5. Minnesota	54.9	1,804	3.0	DL,LG,BG	361	26	72	37.3	120
6. Florida	46.6	736	0.9	—	284	12	67	33.2	93
7. Massachusetts	50.7	1,962	3.1	DL,LG,BG,VC	300	25	73	33.5	133
8. New Mexico	50.2	1,145	2.1	DL,LG,BG,VC	293	19	68	32.2	140
9. Connecticut	57.1	1,034	3.1	DL,LG,VC	336	23	70	34.5	102
10. New Jersey	50.1	876	1.8	DL,LG,BG	353	26	68	37.1	112
11. Illinois	59.7	4,307	0.7	DL	368	30	65	39.7	110
12. Washington	64.6	1,918	1.2	—	442	34	77	44.8	100
13. Virginia	55.7	850	1.4	—	282	15	63	36.2	100
14. Montana	56.2	1,513	0.3	DL,LG,BG,VC	396	29	75	56.7	129
15. Pennsylvania	49.9	1,697	0.8	DL,LG,VC	328	35	65	35.1	109
16. Delaware	61.4	2,408	0.0	—	331	25	68	35.0	108
17. New Hampshire	59.6	634	1.5	LG	282	16	72	33.7	87
18. Indiana	49.6	811	0.3	DL,LG,BG,VC	382	30	66	41.2	92
19. North Dakota	50.7	1,286	1.0	BG	279	17	67	35.7	112
20. Rhode Island	56.6	1,647	0.3	LG,BG	255	28	61	27.3	115
21. Oregon	53.1	1,693	1.1	DL,BG	337	26	75	35.9	118
22. Kentucky	47.8	845	0.2	DL,BG	325	24	52	44.1	103
23. Georgia	51.6	1,062	0.4	BG	271	15	57	31.8	106
24. Tennessee	49.8	1,025	1.0	—	282	19	55	32.9	96
25. Kansas	48.6	1,213	0.2	—	358	15	72	38.8	100
26. Vermont	65.8	761	2.2	DL,LG,BG	294	18	71	34.4	126
27. Louisiana	50.1	1,346	1.1	DL,LG,BG,VC	381	16	58	61.7	115
28. Michigan	51.6	1,111	1.1	DL,LG,BG,VC	443	37	68	36.2	116
29. Ohio	48.3	866	0.7	DL,LG,VC	405	31	67	40.0	92
30. North Carolina	48.5	985	0.1	—	246	10	55	30.4	103
31. Hawaii	58.7	1,212	1.0	DL	319	28	73	47.1	138
32. Missouri	47.0	1,258	0.3	DL,LG,BG	331	28	64	37.3	88
33. Oklahoma	53.7	2,041	1.4	DL	349	15	67	37.0	110
34. Iowa	47.4	908	0.3	BG,VC	397	22	71	47.2	111
35. Maryland	48.2	646	0.7	DL,LG	354	23*	67	37.0	112
36. Arkansas	50.1	1,095	0.6	BG	266	16	55	31.8	93
37. Utah	53.7	831	0.0	—	327	18	80	36.7	119
38. Arizona	61.5	1,013	0.4	—	334	16	72	36.0	115
39. Nebraska	50.7	1,045	0.8	—	342	18	74	40.8	104
40. Mississippi	48.6	700	0.5	DL,LG	255	16	55	33.1	108
41. Alabama	45.5	744	0.8	—	288	22	57	32.6	98
42. Nevada	51.3	663	0.6	—	339	24	76	38.2	103
43. South Dakota	68.0	1,114	1.3	—	297	15	69	34.6	109
44. Wyoming	52.3	1,607	4.6	—	303	19	78	59.0	155
45. Maine	51.7	526	0.5	LG,BG	295	24	69	31.2	119
46. Alaska	48.2	1,332	0.1	DL,VC	442	34	83	52.1	500
47. Idaho	58.9	1,014	1.3	—	314	18	73	38.6	100
48. West Virginia	44.2	491	0.0	DL	336	34	57	42.3	107
49. Wisconsin	53.8	971	0.3	—	375	29	70	38.7	122
50. South Carolina	43.1	388	0.2	—	263	8	54	28.5	107

[1] DL-direct loans; LG-loan guarantees; BG-bond guarantees; VC-venture capital.
[2] AO-advisory office; OM-ombudsman; AC-advisory council; LC-legislative committee; SC-statewide conference; PS-procurement set-asides.
* Includes union membership in District of Columbia.

STATE SUPPORT	BUSINESS ACTIVITY				
Small bus. assistance[1]	Pop. % change (1980-82)	Employmt. % gain (1980-82)	Pers. inc. % change (1980-82)	Business units per 1,000 pop.	INC.100 companies (1979-83)
–	1.4%	4.3%	16.6%	20	2
AO,AC,LC,SC,PS	7.4%	13.9%	19.3%	20	35
AO,OM,AC,LC,SC	4.5	8.0	15.1	21	62
AO,OM,AC,SC	5.3	6.24	17.7	23	16
AO,OM,AC,LC,SC,PS	0.6	-0.4	20.0	21	38
AO,OM,AC,SC,PS	1.4	2.7	14.3	21	22
AO,OM,LC,SC,PS	6.9	24.2	19.0	21	11
AO,OM,AC,SC,PS	0.8	3.2	18.6	20	13
AO,OM,AC,SC,PS	4.3	12.1	14.4	19	2
AO,OM,SC,PS	1.5	-1.1	18.7	21	9
AO,OM,AC,SC,PS	1.0	2.6	20.7	21	18
AO,OM,AC,LC,SC,PS	0.2	0.7	16.4	19	2
AO,LC,SC,PS	2.7	8.2	13.4	21	6
AO,AC,LC,SC,PS	2.7	4.6	17.4	18	7
AO,OM,AC,SC,PS	1.8	5.7	15.8	26	0
AO,OM,AC,LC,SC,PS	0.0	2.2	16.5	18	7
AO,OM,AC,LC,SC	1.3	4.1	16.8	20	0
AO,LC,SC	3.3	3.3	18.6	21	2
OM,AC,LC,SC,PS	-0.4	0.6	13.8	18	7
AO,AC,LC,SC	2.6	1.0	29.8	24	0
AO,AC,LC,SC,PS	1.2	5.2	16.7	22	0
AO,OM,AC,LC	0.6	4.5	12.0	23	4
AO,OM,AC,LC,SC,PS	0.2	5.7	17.1	17	1
AO,OM,AC,LC	3.2	11.0	18.3	18	6
AO,AC,SC,PS	1.3	6.8	16.1	18	4
AO,AC,LC,SC,PS	1.9	-0.7	15.8	23	2
AO,SC	0.9	8.6	21.3	25	0
AO,AC,PS	3.7	7.0	19.0	18	1
AO,OM,AC,LC,SC,PS	-1.7	-1.0	11.6	17	3
AO,AC,LC,SC,PS	-0.1	-0.7	14.0	18	5
AO,OM,AC,LC,SC	2.3	7.6	16.1	19	1
AC,LC,SC	3.0	15.1	14.0	21	0
AO,OM,LC,SC	0.7	-0.2	16.9	20	1
AO	5.0	8.2	18.5	20	7
AO,OM,AC,LC,SC	-0.3	-2.6	13.5	23	2
AO,AC,LC,SC,PS	1.1	2.2	17.3	17	5
AO,AC,SC	0.2	6.5	17.4	18	0
AO,AC,SC	6.3	10.7	14.5	18	1
AO,OM	5.2	18.4	15.8	18	3
AO,OM	1.0	0.9	17.1	24	1
AO,OM,AC,SC	1.2	2.5	16.9	17	1
AO,AC,SC,PS	1.3	4.4	14.8	17	2
AO,SC	10.0	26.8	10.1	21	1
AC	0.0	-2.6	22.9	24	0
—	6.8	2.4	10.9	26	3
AO,OM,AC	0.8	0.2	17.7	21	1
AO,OM	8.9	7.4	20.5	20	1
—	2.3	4.0	14.3	21	0
AO,OM,LC,SC,PS	-0.1	1.6	14.9	16	0
AO,OM,LC	1.3	3.4	13.0	20	4
AO,SC,PS	2.6	12.9	16.6	17	3

Sources (by column, left to right): Federal Deposit Insurance Corp. (1,2); U.S. Small Business Administration (3); State development agencies (4); U. S. Department of Labor, Bureau of Labor Statistics (5,6); U.S. Department of Education (7); Bureau of Census, Census of Manufacturers (8); Tax Foundation (9); INC. survey of 50 states (10); Bureau of the Census (11); Bureau of Labor Statistics (12); U.S. Department of Commerce, Bureau of Economic Analysis (13); Bureau of the Census, County Business Patterns (14); INC. (15)

The best homes for small companies aren't always states with sun and low taxes. New York's jump to #4 shows that money talks.

States, like warrior nations, have long sought to lure businesses from both neighboring and distant areas. Such efforts have been an integral—and highly publicized—aspect of state strategies to boost growth and employment. Indeed, one has only to look at some of the latest border skirmishes—such as the sparring match earlier this year between the governors of South Dakota and Minnesota—to conclude that the "industrial recruitment" game is still being played with fervor.

But even as many states continue to devote millions of dollars to encouraging businesses to move or set up branches within their borders, a dramatic shift is occurring in the way many public officials think about their states' opportunities for growth. Instead of drawing elaborate battle plans for bigger and better industrial raiding missions, a growing core of policymakers is finding that the most effective route to economic expansion isn't through recruitment, but through the encouragement of smaller companies already doing business within the state. "Almost everybody is still doing a bit of recruitment," notes Miles Friedman, executive director of the National Association of State Development Agencies in Washington, D.C. "But more and more states are asking themselves, 'What do we need to do to take advantage of the expansion potential of the businesses that we've already got?' "

Many of the factors that help shape a state's climate for the growth of small businesses are beyond the immediate control of state policymakers. National and international economic forces can play unsettling roles in the lives of large and small companies alike without governors having much say in the matter. The amenities that make up an area's "quality of life," moreover, frequently aren't easy to define and are even harder to alter.

But there are important aspects of a state's small business environment that

Wisconsin has trailed behind other midwestern states in its adoption of small business support programs. It has also been slow to install the types of lending and venture capital programs established by its neighbors.

are far less difficult to describe or influence. Recognizing that promising young companies need various types of capital for growth, for example, 11 of the most entrepreneurial-minded states have responded to weaknesses in the private markets with the creation of their own new, state-sponsored pools of venture capital. States, moreover, are taking steps to improve the skills and productivity of their labor forces through investments in education. On a different level, 26 states maintain special legislative committees to handle the special concerns of their small businesses.

INC.'s third annual report on the states compares the 50 states on major, quantifiable factors that contribute to an overall climate for small business. The intent is to help businesspeople and policymakers understand better how to make improvements. The analysis focuses, in large part, on three broad areas of concern to smaller companies—capital, labor resources, and taxes. We also surveyed each of the states directly to determine the level of small business support programs at the executive or legislative levels. For a fifth category, we selected a series of business and economic measures that influence the general climate. The sources for the data were federal government reports and telephone interviews with state officials.

INC. ranked the 50 states in these five categories—capital, labor, taxes, state support, and business activity. The overall scoring system was based on 100 possible points. The weighting for each category, moreover, was maintained according to last year's formula to reflect its relative importance to the majority of small, growing companies. Capital and state support were both given 25 points in the belief that they are the most critical factors. Taxes, while always an area of concern, received 10 points, the lowest weighting. Labor and business activity were each weighted at 20 points, in recognition of their significance to smaller companies. According to this methodology, the total scores ranged from 76.0 for Texas to 39.5 for South Carolina.

Texas was at the top of the charts for the second year in a row, largely on the strength of its capital resources and overall business activity, reflected in its recent gains in population, employment, and income. Although its official support for small business isn't as great as that of other states, a productive labor force and a fairly low tax burden were also included on Texas's list of positives. Strengths in the capital and business activity areas were, similarly, the driving forces behind the impressive performances of California and Colorado, which once again achieved the second and third rankings, respectively.

Not all of the top performers, however, are located in the dynamic West or the South. Fourth-ranked New York and 5th-ranked Minnesota both overcame comparatively stiff tax rates and average or higher-than-average wage rates to improve their positions substantially over last year, when they ranked 12th and 19th, respectively. Both states benefit from their strengths in the lending activity of their banks and their small business investment companies (SBICs). But, importantly, New York and Minnesota compare very well with other states in their small business support programs. Massachusetts's jump from 18th place last year to 7th this year can be credited, in part, to similar factors. However, the state's comparative economic strength also played a role.

It is not surprising that weaknesses in overall state rankings are often tied to poor performance in the capital-resources category. South Carolina, which ranked 50th overall, also scored last in capital. Its bank lending activity was the lowest in the nation, but it was also weak in SBIC financings, and it has no state-sponsored lending or investment programs. West Virginia, Nevada, and Alabama, with overall rankings of 48, 42, and 41, respectively, also suffer from their weaknesses in most of the capital criteria.

Increasingly, however, the steps some of the more aggressive states are taking to provide active support for small business—both through general support programs and state-sponsored capital initiatives—are having an impact on their overall performances. A year ago, Indiana, for instance, was ranked 42nd, reflecting its sluggish economy, weaknesses in capital, and modest level of official support for small business. But a series of recent actions, including its establishment of a new legislative committee, a new governor's advisory council, and a new state institute directed at assisting business start-ups, have helped lift Indiana to 18th place.

Neighboring Michigan's creation of loan and bond guarantee programs during the past year and a publicly backed venture capital fund have likewise contributed to its advance from 36th place to 28th, even in the face of serious declines in the state's auto-based economy. However, Wisconsin's severe shift in the other direction—from its 35th ranking last year to 49th this year—dramatically illustrates the consequences of not staying competitive with other states. While Wisconsin's basic labor, economic, and capital characteristics aren't dramatically different from other midwestern industrial states, it has lagged behind in the adoption of general support and capital programs to assist small companies. Pending legislation before the Wisconsin legislature would authorize a new venture capital fund aimed at small and medium-size companies, possibly before the end of this year.

Even as states become more active players in their capital markets, the real challenge for state officials may be in understanding the fundamental dynamism of industrial change so that they can better help their existing companies react to technological opportunities. Many states, to be sure, have been extremely aggressive lately in their pursuit of high-tech manufacturing facilities in the hope of finding an economic savior, much as they used to try to woo "smoke stack" industries.

But more and more experts are becoming doubtful about whether this approach will be as successful in generating jobs as other efforts directed at a state's current industrial base have been. "The race for high-tech manufacturing jobs really won't lead anywhere for most states," predicts Roger Vaughan, former deputy planning director for New York State and now a private economic-development consultant. "By the most generous estimates, 1 new job in 20 will be in making high-tech products." One state that has come around to this view is Rhode Island (see "The Little State that Could," page 151).

For some aggressive states, the efforts in the years ahead will include redesigning vocational education systems to meet industry needs and development of technology extension services. The purpose of such programs will be to create mechanisms for teaching both management and the labor force how to exploit the potential of available high-tech products. "We need to find better ways to coordinate," says Tom Campbell, research director of Washington State's new Emergency Commission for Economic Development. Among other things, he says, "the educational institutions have to be taught how to adapt to the needs of business." □

Research support for this report was provided by Maura McEnaney and Elyse Friedman. Other assistance came from John F. Persinos and Carol Torres.

REPORT ON THE STATES (continued)

Minnesota's tax and wage rates are well above the national medians. But aggressive bank lending and investments by local SBICs make it one of the top states for capital resources. Such assets have boosted Minnesota to the #5 spot overall.

REPORT ON THE STATES: BEST OF SHOW

Capital: Leveraging the Local Assets

1. California
2. New York
3. Texas
4. Massachusetts
5. Minnesota
6. Colorado
7. Connecticut
8. New Mexico
9. Vermont
10. Illinois

Bankers and venture capitalists, no matter where they are based, like to argue that money finds its way to the good opportunities. If a project is worthy of support, the theory goes, it will receive the type of financing it needs. But a growing number of public officials are concluding that there are at least some promising local ventures that the private markets aren't discovering. Invoking the name of economic growth and diversification, some states, including Michigan and Louisiana, have each created their own new venture capital pools in recent months to spur in-state investments. In addition, more and more states are creating programs to guarantee debt and make direct loans to smaller companies.

The amount of funding being made available through such programs is tiny compared to what is possible through the banks. Based on banking industry data, commercial and industrial loans per capita in 1982 ranged from New York's $11,453 to South Carolina's $388, with the 50-state median at $1,078. But however modest the recent public efforts may be, their significance goes beyond their actual size. Even with relatively small programs, state officials are finding methods of unlocking important new sources of long-term debt and equity—forms of capital most of the nation's banks aren't eager to provide.

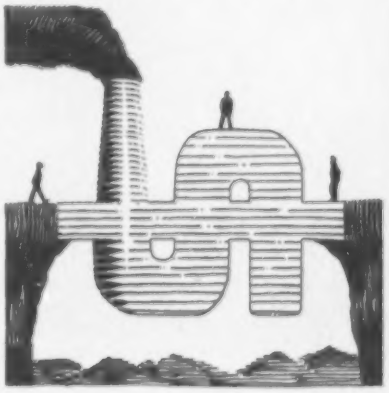
Massachusetts and Alaska were two of the biggest innovators in the capital arena when they established an array of programs during the late 1970s to fill private-market "gaps." But the recent recession and declines in such major industries as auto, lumber, and energy have pushed other states to pay serious attention to the capital requirements of smaller companies. Over the past year, for example, auto-dependent Michigan has established a series of new programs to provide small businesses with, among other things, loan guarantees, equity-oriented investments from public employee pension funds, and debt and equity from the state's new strategic investment fund.

Montana, the 11th ranked state for capital, meantime, is making its own attempts to bankroll economic diversification away from a heavy dependency on coal mining and lumber. Under a newly adopted "Build Montana" package, small businesses can now apply for long-term, fixed-rate debt. The state has also authorized equity capital investments in small companies. This money could come from state employee pension funds from the state's coal tax trust fund. To encourage investors to create a larger pool of home-grown venture capital, moreover, Montana is offering state income tax credits of 25% to individuals and corporations supplying funds.

A similar program aimed at boosting the amount of local venture capital was signed into Louisiana law last July. Investors in the new state-chartered "capital companies" are entitled to state tax credits as high as 35% as long as at least 60% of the money they put up goes to Louisiana companies—and none of it goes to such restricted areas as oil-and-gas exploration and real estate. Before adopting the program, state officials calculated that less than 1% of the nation's venture capital supply was finding its way to Louisiana companies. During the first year, the state hopes to spur investments of at least $20 million from private sources.

State support: Pennsylvania Steps Out Front

1. Pennsylvania
2. Kentucky
3. Michigan
4. New York
5. Illinois
6. Indiana
7. Massachusetts
8. New Mexico
9. Montana
10. Ohio



For the third year in a row, INC. surveyed the states to identify those that provide support through small business assistance offices, ombudsmen, and statewide small business conferences. INC. also conducted a 50-state inventory of standing legislative committees, governors' advisory councils, and formal procurement programs intended to encourage purchasing from small companies.

Last year's top three states—Kentucky, New York, and Illinois—continued to demonstrate firm support for small business by maintaining all five programs that were included in our survey. But significant actions by Pennsylvania and Michigan—both of which established new legislative committees—enabled these two struggling industrial states to earn positions #1 and #3, respectively. Another newcomer to the top 10, Indiana (#6), advanced in the support category, thanks to its creation of a new advisory council on small and young businesses. *(continued)*

Illustrations by Christopher Bing

Indiana's solid jump—from 42nd place last year to 18th this year—is partly due to the state's low taxes. But other recent actions have also helped. Among them are the creation of an institute to assist start-ups and a new legislative committee.

BEST OF SHOW

Only two states—Idaho and Wyoming—reported they had none of the programs INC. was looking for.

Labor: Productive Workers Spur Wyoming

1. Wyoming
2. Nebraska
3. Colorado
4. Utah
5. Idaho
6. North Dakota
7. Vermont
8. Arizona
9. Florida
10. New Hampshire

The best employees are rarely the ones willing to work for the lowest pay. Looking beyond their weekly payroll, managers of growth-minded small companies usually seek well-educated and productive workers.

In comparing the states, INC. analyzed wage levels and union activity but also examined data on education (the percentage of the work force over the age of 25 with high-school degrees) and productivity (defined as the amount each worker added to the value of manufactured goods).

Of the top states, only North Dakota, New Hampshire, and Florida have fairly low wages. In fact, three of the highest-ranking states in the labor category—Nebraska, Colorado, and Arizona—feature average weekly wages for manufacturing workers above the national median of $331. Utah, Colorado, Nebraska, and Wyoming all benefit from an educated population. In each case, 73% or more of the residents over the age of 25 hold high-school degrees. And Wyoming has another factor in its favor. Reflecting the state's mining-based economy, Wyoming's workers are second only to Louisiana's in the value they add to what they make. The average worker added about $59,000 per year to manufactured goods, compared with the national median of $36,880.

Taxes: New Hampshire's Tax Man Takes the Least

1. New Hampshire
2. Missouri
3. Indiana
4. Ohio
5. Florida
6. Arkansas
7. Tennessee
8. Alabama
9. Texas
10. Virginia

Nobody likes to pay the tax man. While examples of companies actually leaving a state because of taxes are rare, the level of state and local taxes that businesses and individuals must pay nevertheless influences business attitudes about where to expand and grow.

Because it is almost impossible to directly compare various types of business taxes among states, INC. followed the advice of tax experts and focused strictly on the overall levels of state and local taxes as related to each $1,000 of personal income. According to this measure, New Hampshire's tax rate of $87 per $1,000 is the nation's lowest, followed by Missouri at $88. Indiana, which had the lowest taxes last year, and Ohio both had rates of $92.

Alaska's tax rate of $500 is the highest, but that figure is misleading. Almost all of the state's revenues are derived from large energy companies, so others pay little or no taxes at the local and state levels. In New York, the state with the second highest taxes, individuals pay $158 per $1,000, followed by Wyoming ($155), New Mexico ($140), and Hawaii ($138).

Underscoring the greater importance of other factors, only 2 low-tax states—Texas and Florida—appear in the top 10 overall. But 3 states with comparatively high taxes—New York, Massachusetts, and Minnesota—rely on other strengths to reach high ranks in the INC. survey.

Business Activity: Income Gains Bolster Colorado

1. Colorado
2. Texas
3. Florida
4. Oklahoma
5. California
6. Georgia
7. Alaska
8. New Jersey
9. Arizona
10. New Mexico

General business activity within a state can mean big opportunities for both existing and new small companies. A rising economic tide may not lift all the boats, but the chances are usually better than they are when things are sinking.

The INC. study doesn't give as much emphasis tobusiness activity as it does to capital resources and state support of small business—two factors over which states wield more control. Nevertheless, 5 states with comparatively strong activity—Colorado, Texas, Florida, California, and New Mexico—also climbed to the top 10 overall. In each case, a strong showing in this category leveraged other strengths. Colorado, for instance, saw healthy population gains (5.3%) and employment increases (6.2%) between 1980 and 1982 and has also been fertile ground for fast-growing small companies, as measured by the annual INC. 100 listing. It was also in the top 10 for capital and labor.

For three states—Oklahoma, Arizona, and Alaska—strong performance in the business-activity category still led to overall rankings in the lower half.

REPORT ON THE STATES (continued)

TRIMMING TAXES BEFORE YEAR'S END

Start your planning now, before the tax year is over, by considering these 12 strategies.

By Donna Sammons

It is hard these days for sole proprietorships, partnerships, and corporations to trim the amount of taxes they pay, but it is not impossible. The key is to act now, while there is still time to identify and capture the available tax breaks. Here are 12 tax saving strategies to consider:

1. Be miserly with your estimated tax payments. One key to saving money on your taxes is to pay the Internal Revenue Service enough to avoid penalties but not too much, according to Gerald L. Golub, managing partner, and Stuart Kessler, senior tax partner, of Goldstein Golub Kessler & Co., a New York City certified public accounting firm.

A similar point is made by Michael J. Costello, a partner in the Boston office of Laventhol & Horwath, another accounting firm. The safest way for smaller companies to do this is to make estimated tax payments in quarterly installments that add up to the previous year's total tax bill, Costello says. "It's much better to have a balance due the IRS on April 15 and have been able to use the cash in your business throughout the year. Cash is vital to a business. You don't want Uncle Sam sitting on it," he notes.

2. Pay spouses for the work they do. Many small business owners and managers draw upon the talents of their spouses. Husbands, for instance, may help with the bookkeeping; wives may provide business advice, sometimes over a family dinner. Tax experts agree that spouses should be paid for their bona fide efforts, particularly if they are not otherwise employed. Consider this example: Your wife does not work outside the home, but in the past year she has helped you in the development of a marketing plan. For her advice, you pay her a $2,000 consulting fee. These earnings enable her to open an individual retirement account. She contributes the entire $2,000 to the account, sheltering the total amount she was paid from taxation.

3. Pay children for the tasks they perform. This tactic enables you to shift income from a high tax bracket (yours) to a low one (your children's). By compensating your offspring for the work they do for your business, you earn a deduction, and they earn spending money or cash to put away for college.

4. Contribute to retirement accounts. If you are doing business as a sole proprietor or partnership, it is to your advantage to make the largest possible contributions to tax-deferred Keogh plans and IRAs, suggest Carol Lefcourt, president of Lefcourt, Golub, Baer, Moneypenny Inc., a Palo Alto, Calif., financial planning firm, and Martin J. Satinsky, of the Philadelphia office of Coopers & Lybrand, the Big Eight accounting firm. It also makes sense to make your contributions to tax-deferred retirement accounts early in the year. For example, if you deposit $15,000 in a Keogh account on July 1, 1983 (assuming 10% interest compounded monthly), it will grow to $115,533 in 20 years—$5,612 more than if the same amount of money were contributed on December 31, 1983.

The ceiling on Keogh contributions in 1983 is $15,000 or 15% of earned income from a sole proprietorship or partnership, whichever is less. In 1984, the 15% rule remains in place but the maximum contribution jumps to $30,000. The top annual individual contribution to an IRA is $2,000.

5. Use the Targeted Jobs Tax Credit (TJTC). This credit was adopted by Congress to encourage businesses to employ the economically disadvantaged, a group that includes welfare recipients, young people from poor families, certain Vietnam veterans, and ex-convicts. The credit equals 50% of the first $6,000 of wages paid to qualified employees (a maximum credit of $3,000 per worker). During the second year, the credit is 25% of the first $6,000 of wages paid (a maximum credit of $1,500). If your business can make use of this credit, contact your state employment service for more information. A representative of the employment service must certify that an individual qualifies for the TJTC—or have the required papers "in process"—before the employee starts work.

A word of warning about the TJTC: "Be very careful not to violate the discrimination laws in trying to seek out the types of people who fit into these categories," says Laventhol & Horwath's Costello. "It can be a discriminatory hiring practice if you ask questions on your job

YOUR CHANCES OF BEING AUDITED

	Gross receipts	% of returns audited 1982 (projected)	1981
Sole proprietors:	Under $25,000	1.68	1.42
	$25,000 to under $100,000	3.97	3.98
	$100,000 or more	5.94	7.12
Partnerships		1.63	1.62
Corporations*	Under $100,000	2.79	2.60
	$100,000 to $1 million	4.49	5.42
	$1 million to under $10 million	12.59	14.35
	$10 million to under $100 million	23.86	25.93
	$100 million or more	66.73	80.52

*Based on assets
Source: Godick & Co., Philadelphia